S. Hrg. 100-687 Pt. 1

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Before the Committee on Appropriations

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Fiscal Year 1989

100*th* CONGRESS, SECOND SESSION

H.R. 4784

PART 1 (Pages 1-757)
DEPARTMENT OF AGRICULTURE

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S. Hrg. 100–687 Pt. 1

AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1989

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

SECOND SESSION

ON

H.R. 4784

AN ACT MAKING APPROPRIATIONS FOR RURAL DEVELOPMENT, AGRICULTURE, AND RELATED AGENCIES PROGRAMS FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1989, AND FOR OTHER PURPOSES

PART 1 (Pages 1–757)

DEPARTMENT OF AGRICULTURE

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AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1989

TUESDAY, FEBRUARY 23, 1988

U.S. Senate,
Subcommittee of the Committee on Appropriations,
Washington, DC.

The subcommittee met at 10:05 a.m., in room SD-138, Dirksen Senate Office Building, Hon. Quentin N. Burdick (chairman) presiding.

Present: Senators Burdick, Stennis, Sasser, Bumpers, Harkin, Cochran, Kasten, and Grassley.

DEPARTMENT OF AGRICULTURE

Office of the Secretary

STATEMENT OF HON. RICHARD E. LYNG, SECRETARY OF AGRICULTURE

ACCOMPANIED BY:
- PETER C. MYERS, DEPUTY SECRETARY OF AGRICULTURE
- STEVE DEWHURST, DIRECTOR, OFFICE OF BUDGET AND PROGRAM ANALYSIS

INTRODUCTION OF WITNESSES

Senator **Burdick**. Good morning, ladies and gentlemen. We are pleased to welcome before the subcommittee today the Secretary of Agriculture, Richard E. Lyng. He will kick off our hearings on the fiscal year 1989 budget. Accompanying the Secretary are Peter C. Myers, Deputy Secretary of Agriculture, and Steve Dewhurst, Budget Officer for the Department. Welcome to the committee, gentlemen.

As the Secretary will point out, this year's budget is characterized by the absence of many proposals which have been included in previous Reagan budgets.

For example, there are very few legislative changes proposed. No user fees are being suggested this year for the various marketing and inspection agencies, and this year, the President has not seen fit to propose scaling back the Food Stamp Program or to eliminate meals provided to certain children under the child nutrition programs. Nevertheless, there are still certain proposals in the budget which cause me great concern, such as the virtual elimination of the Rural Electrification Program as well as the elimination and cutback of certain conservation programs.

I am also concerned by the reduction in the Public Law 480 program. Under the budget summit agreement, this function was to increase this year; however, it would appear to me that the increase has gone to other agencies which do not provide food aid but provide other forms of aid, such as military assistance.

Mr. Secretary, I will have questions for you on some of these special concerns a little later in this hearing, but for now, I want to welcome you again to the committee, and I want to thank you for presenting a budget which is based on current law.

OPENING STATEMENTS

We will proceed with opening statements before we get into questions and answers. Senator Stennis.

Senator STENNIS. I am very glad to be here, Mr. Chairman. I am glad the Secretary and others are here. I am very much interested but I will not say anything now and let you get on with your program.

Senator BURDICK. The Senator from Wisconsin.

Senator KASTEN. Mr. Chairman, thank you. I would like to take just a moment to welcome Secretary Lyng back to the subcommittee. I would like to compliment you, Mr. Secretary, on your performance in office over the past couple of years. Your quiet competence has done much to restore the badly strained relationship between USDA and the Congress.

You have helped create an atmosphere in which Congressmen and Senators are not encouraged to propose major changes in farm programs every year. I think that the stability and predictability that you have helped give to American agriculture is much appreciated by American farmers. We have obviously got a long way to go in this regard, but together, we have made a start, and I think it is important.

I want to draw your attention to the fact that the latest Conservation Reserve Program signup ended, as you know, last week. It is too early to know the results but we in Wisconsin have heard some very encouraging preliminary reports, and I think that is positive. The Department deserves congratulations for the energetic way in which it has implemented the CRP. The CRP is unlike anything USDA has ever been asked to do before in that it aims at removing large amounts of targeted, highly erodible land from production. Over 23 million fragile acres have been taken out of production so far, and I am hopeful that several million more will be taken out as a result of this month's signup.

The CRP is the centerpiece of the comprehensive conservation program included in the 1985 farm bill. Combined with vigorous enforcement of Sodbuster and Swampbuster and timely enforcement of conservation compliance beginning in 1990, the CRP represents a clear commitment to preserving our natural soil, water, and wetland resources for the future of farmers and for the future of all Americans.

I have got some questions on some of these issues that I will ask later, but I just want to welcome you, Mr. Secretary, and thank you for the fine job that you are doing.

Senator BURDICK. Mr. Secretary, I believe we will hear from you now.

STATEMENT OF SECRETARY LYNG

Secretary LYNG. Thank you, Mr. Chairman, members of the committee. It is a pleasure for me to be here. I appreciate Senator Kasten and his kind words. I have with me, as the chairman indicated, our Deputy Secretary, Mr. Peter Myers, on my left, and our Budget Officer, Mr. Steve Dewhurst, on my right. I have a prepared statement, Mr. Chairman, which I will be glad to provide for the record. I would like to summarize it, if it meets with your approval. My remarks begin with some observations about the overall state of the farm economy.

PREPARED STATEMENT

Senator BURDICK. Your full statement will be made part of the record.

[The statement follows:]

STATEMENT OF SECRETARY LYNG

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, IT IS A PRIVILEGE TO APPEAR BEFORE YOU ONCE AGAIN TO DISCUSS THE BUDGET OF THE U.S. DEPARTMENT OF AGRICULTURE FOR FY 1989.

I COME BEFORE YOU THIS YEAR WITH A MORE OPTIMISTIC OUTLOOK FOR THE FARM SECTOR AS WELL AS FOR THE BUDGET THAN IN PREVIOUS YEARS.

OVER THE PAST YEAR, WE HAVE HAD SOME SUCCESS IN DEALING WITH FARM PROBLEMS AS WELL AS WITH THE FEDERAL DEFICIT. THE BUDGET SUMMIT PROCESS ACHIEVED $78 BILLION IN BUDGET SAVINGS OVER THE FY 1988-1989 PERIOD, WITH AGRICULTURE CONTRIBUTING ITS FAIR SHARE OF THE REDUCTIONS. THE JOB, HOWEVER, IS NOT FINISHED. MORE HARD WORK WILL BE NEEDED TO KEEP THE DEFICIT COMING DOWN IN FUTURE YEARS.

THE BUDGET WE ARE SUBMITTING THIS YEAR COMPLIES WITH THE BUDGET SUMMIT AGREEMENT. IT IS A FISCALLY RESPONSIBLE BUDGET, BUT AT THE SAME TIME IT PROVIDES THE NECESSARY FUNDING FOR KEY DEPARTMENT PROGRAMS SO THAT WE CAN ADEQUATELY SERVE OUR FARM AND RURAL CONSTITUENCY.

IN DEVELOPING THE PRESIDENT'S BUDGET, THE DEPARTMENT WAS FULLY INVOLVED WITH RESPECT TO THE PROPOSALS RELATED TO AGRICULTURE. AS WITH THE BUDGETS OF THE LAST FEW YEARS WE HAVE HAD TO SET PRIORITIES AND MAKE DIFFICULT CHOICES IN FUNDING PROGRAMS. FOR EXAMPLE, PROGRAMS THAT PROVIDE SPECIAL GRANTS OR EARMARKED FUNDS FOR STATE AND LOCAL PROJECTS AND ACTIVITIES ARE PROPOSED FOR REDUCTION OR ELIMINATION. ON THE OTHER HAND, WE ARE PROPOSING NEW INITIATIVES IN SOME SELECTED AREAS TO ADDRESS CRITICAL NATIONAL NEEDS. THE BUDGET WILL CONTINUE MOVEMENT TOWARD A MORE MARKET-ORIENTED FARM ECONOMY, WHILE ACHIEVING THE OVERALL SPENDING REDUCTIONS REQUIRED BY THE RECENT BI-PARTISAN BUDGET AGREEMENT.

Before turning to the specific USDA budget proposals, I would first like to discuss some positive developments in the farm sector and some challenges that lie ahead.

Current Agricultural Situation and Outlook

The agricultural economy has begun to stabilize, and in some significant respects, to recover from the unfavorable trends of recent years. This progress is due in large measure to provisions of the Food Security Act of 1985. That legislation is providing for a fundamental departure from past policy by gradually moving American agriculture to a more sustainable market-oriented basis. Further improvements in the farm economy can be expected as price supports for program crops adjust to market-clearing levels, and the United States regains its export competitiveness.

Evidence of recent progress can be found in a number of important indicators. Cash farm income was a record $57 billion in 1987 and is expected to remain high at $50-55 billion in 1988. High Government support payments, however, are responsible for a larger portion of this income than we would have preferred.

Export prospects are improving. More competitive prices as a result of the provisions of the Food Security Act of 1985, reduction in the exchange value of the dollar, expanded export programs, and other factors are increasing the U.S. share of the world agricultural export market. U.S. export volume increased to 129 million metric tons in FY 1987, up from just under 110 million tons in 1986, and exports are expected to climb again in FY 1988 to 141 million tons. Export values have shown a similar increase and are now projected to reach $32.0 billion in FY 1988, up nearly 22 percent over the past two years. Equally important, our strengthened export performance is broad-based with both bulk commodities and high-value products registering gains.

DECLINING SURPLUS STOCKS AS A RESULT OF EXPANDED DEMAND AND RESTRICTED PRODUCTION DUE TO LARGE ACREAGE REDUCTION PROGRAMS ARE CONTRIBUTING TO STRONGER MARKET PRICE PROSPECTS FOR MANY COMMODITIES. SUSTAINED GROWTH IN DEMAND SHOULD PERMIT A CONTINUED GRADUAL DECLINE IN DEPENDENCE ON GOVERNMENT INVOLVEMENT, CONSISTENT WITH THE POLICY DIRECTION OF THE 1985 ACT.

FARM DEBT LEVELS -- A MAJOR SOURCE OF FARM FINANCIAL STRESS -- ARE BEING REDUCED. IN ADDITION FARM ASSET VALUES ARE INCREASING AFTER SEVERAL YEARS OF DECLINE. LAND VALUES ARE RISING IN MOST AREAS OF THE COUNTRY, FOLLOWING A 5-YEAR SLIDE. NATIONALLY, FARM LAND VALUES ROSE 3 TO 5 PERCENT IN 1987. IN ILLINOIS, IOWA, KANSAS, AND NEBRASKA, THEY ARE ESTIMATED TO HAVE INCREASED FROM 8 TO 10 PERCENT LAST YEAR. WHILE LAND VALUES WILL REMAIN SENSITIVE TO CHANGES IN FARM INCOME, INTEREST RATE AND OTHER FACTORS, WE ARE PROJECTING FURTHER INCREASES IN LAND VALUES IN 1988.

AS A WHOLE THE FARM SECTOR HAS BEGUN TO REGAIN FIRMER FINANCIAL GROUND. THE NUMBER OF FARM BANK FAILURES DECLINED LAST YEAR. ALSO, THE AGRICULTURAL CREDIT ACT OF 1987, WHICH PROVIDES FOR FINANCIAL ASSISTANCE AND ADMINISTRATIVE STREAMLINING OF THE FARM CREDIT SYSTEM, SHOULD DO MUCH TO ASSURE CONTINUED AVAILABILITY OF CREDIT AT REASONABLE RATES FOR CREDITWORTHY FARM BORROWERS.

THE FARMERS HOME ADMINISTRATION WILL CONTINUE WORKING WITH ITS TROUBLED BORROWERS. REGULATIONS TO REINSTATE CONTINUATION LOANS, MANDATED IN THE SUPPLEMENTAL APPROPRIATIONS ACT FOR 1987, WILL SOON BE ISSUED. FURTHER, THE AGENCY WILL CONTINUE TO ASSIST ITS BORROWERS THROUGH SUCH SERVICING ACTIONS AS SUBORDINATIONS, RESCHEDULINGS AND DEFERRALS.

IN ADDITION, BOTH THE FARMERS HOME ADMINISTRATION (FMHA) AND THE FARM CREDIT SYSTEM WILL BE IMPLEMENTING NEW AND SUBSTANTIAL SERVICING BENEFITS AUTHORIZED IN THE AGRICULTURAL CREDIT ACT OF

1987. These benefits include the writing-down of loan principal for delinquent borrowers, where such action is in the best interest of the Government.

Trade Negotiations and Agricultural Reform

While we are all heartened by these improvements in the farm sector, we also recognize that world agricultural production and trade continue to face serious problems requiring long-term solutions. These problems result from Government policies which create incentives for uneconomic production and curtail demand. For this reason, we will be concentrating our efforts this year to achieve a successful outcome to the Uruguay Round of multilateral trade negotiations, which offers an unprecedented opportunity for fundamental reform in world agricultural policies.

Reaching a consensus among the various negotiating parties will not be easy, but agreement is possible if we continue to focus our attention on the long-term benefits of a more open, flexible, and equitable system of international trade. These benefits include expanded opportunities for agricultural growth and trade and enhanced world food security.

With this background on the general state of agriculture, I would now like to discuss the FY 1989 budget, beginning with farm program spending.

Budget Proposals for FY 1989

Farm Price and Income Support

Spending for Commodity Credit Corporation (CCC) price and income support activities increased dramatically during the 1980s, setting a record of $25.8 billion for FY 1986. Much of this

INCREASE CAN BE ATTRIBUTED TO HIGH PRICE SUPPORT RATES FOR THE MAJOR COMMODITIES WHICH ENCOURAGED PRODUCTION WELL IN EXCESS OF DEMAND. THE RESULT WAS A COSTLY BUILD-UP OF SURPLUS STOCKS.

THIS UPWARD TREND IN THE ANNUAL RATE OF CCC SPENDING HAS NOW BEEN REVERSED. IMPROVEMENTS IN THE FARM ECONOMY I HAVE ALREADY DISCUSSED ARE RESULTING IN REDUCED LEVELS OF CCC NET OUTLAYS. MOREOVER, FURTHER REDUCTIONS ARE PROJECTED AS PROVISIONS OF THE FOOD SECURITY ACT OF 1985 ARE GRADUALLY IMPLEMENTED, EXPORTS STRENGTHEN AND PRICES REFLECT MARKET CONDITIONS.

FROM THE RECORD FY 1986 LEVEL, CCC NET OUTLAYS FELL TO $22.4 BILLION IN FY 1987, AND WE NOW PROJECT CCC SPENDING AT $17.7 BILLION FOR FY 1988. THE DECLINE OF $4.8 BILLION FROM THE FY 1987 LEVEL IS PRINCIPALLY DUE TO THE LOWER SUPPLY LEVELS AND HIGHER USAGE FOR THE MAJOR PRICE SUPPORTED CROPS. FOR FY 1989, OUTLAYS ARE CURRENTLY PROJECTED TO DECLINE FURTHER TO $17.1 BILLION. IN SPITE OF THESE IMPROVEMENTS, CCC SPENDING IS STILL HIGH BY HISTORICAL STANDARDS.

THE FY 1988 AND FY 1989 ESTIMATES FOR THE FARM PROGRAMS ALSO INCLUDE SAVINGS ACHIEVED IN LAST YEAR'S BUDGET RECONCILIATION PROCESS. SAVINGS OF $2.5 BILLION WERE ACHIEVED FROM THE GRAMM-RUDMAN BASELINE PROJECTIONS DEVELOPED LAST AUGUST. ADDITIONAL SAVINGS HAVE RESULTED FROM IMPROVED SUPPLY AND DEMAND CONDITIONS.

SINCE CCC OUTLAYS ARE INHERENTLY DIFFICULT TO PREDICT, THESE OUTLAY ESTIMATES WILL MOST LIKELY CHANGE AS NEW ECONOMIC AND CROP INFORMATION BECOMES AVAILABLE. HOWEVER, IT IS EXPECTED THAT CCC OUTLAYS WILL CONTINUE THE GRADUAL DECLINE IN FUTURE YEARS AS THE PRICE AND INCOME SUPPORT PROGRAMS BECOME MORE MARKET-ORIENTED.

DUE TO THE HIGH LEVEL OF OUTLAYS IN RECENT YEARS, CCC HAS HAD TO SUSPEND OPERATIONS ON FIVE OCCASIONS BECAUSE ITS BORROWING

AUTHORITY WITH THE TREASURY WAS EXHAUSTED. IN 1987, CONGRESS RESPONDED TO THIS SITUATION BY INCREASING THE CEILING ON CCC BORROWING AUTHORITY TO $30 BILLION AND AUTHORIZING A CURRENT INDEFINITE APPROPRIATION. HOWEVER, THE CURRENT, INDEFINITE APPROPRIATION HAS NOT BEEN PROVIDED FOR CCC FUNDING IN FY 1988.

THIS YEAR, WE ARE ASKING THAT CONGRESS PROVIDE THE CURRENT, INDEFINITE APPROPRIATION WHICH HAS NOW BEEN AUTHORIZED. WITH SUCH AN APPROPRIATION, WE CAN ELIMINATE THE POSSIBILITY OF SHUT-DOWNS OF CCC IN FY 1989 AND BEYOND. CURRENT PROJECTIONS INDICATE THAT CCC WILL HAVE ADEQUATE FUNDING FOR THE REMAINDER OF THIS FISCAL YEAR.

OTHER THAN A NEW PROPOSAL TO REFORM THE SUGAR PROGRAM, THE ADMINISTRATION IS NOT PROPOSING ADDITIONAL LEGISLATIVE CHANGES IN FARM PROGRAMS IN THE PRESIDENT'S BUDGET. THE ADMINISTRATION WILL SEEK CHANGES IN THE SUGAR PROGRAM TO MAKE IT MORE MARKET-ORIENTED AND THUS CONSISTENT WITH AGRICULTURAL POLICY FOR OTHER CROPS.

EXPORT MARKET DEVELOPMENT

IN THE INTERNATIONAL AREA, OUR FY 1989 BUDGET PROPOSALS ARE DESIGNED TO BUILD ON RECENT PROGRESS IN RESTORING OUR EXPORT COMPETITIVENESS AND REGAINING MARKETS OVERSEAS. THEY ALSO SEEK TO CONTINUE THIS PROGRESS INTO THE FUTURE THROUGH LONG-TERM MARKET DEVELOPMENT.

FOR CCC EXPORT CREDIT PROGRAMS, WE ARE PROPOSING THAT $3.0 BILLION OF SHORT-TERM GUARANTEES AND $500 MILLION OF INTERMEDIATE-TERM GUARANTEES BE MADE AVAILABLE DURING FY 1989. WHILE THIS REPRESENTS A REDUCTION IN SHORT-TERM GUARANTEES FROM THE LEVEL MANDATED IN THE FOOD SECURITY ACT OF 1985, OUR PROPOSAL MORE

ACCURATELY REFLECTS PROGRAM PARTICIPATION IN RECENT YEARS AND SHOULD BE ADEQUATE TO ACHIEVE OUR EXPORT MARKETING OBJECTIVES. MOREOVER, WE WILL BE CONTINUING OTHER COMMERCIAL EXPORT PROGRAMS IN 1989, SUCH AS THE EXPORT ENHANCEMENT PROGRAM, WHICH WILL CONTRIBUTE GREATLY TO OUR ABILITY TO COMPETE IN INTERNATIONAL MARKETS.

MARKET DEVELOPMENT ACTIVITIES WILL BE BOOSTED IN FY 1989 BY A SUBSTANTIAL INCREASE IN THE TARGETED EXPORT ASSISTANCE (TEA) PROGRAM. WHILE THE LEVEL OF TEA IS $110 MILLION IN FY 1988, OUR BUDGET INCLUDES $295 MILLION IN FY 1989 FOR THIS PROGRAM, WHICH IS PROVING VERY HELPFUL IN SUPPORTING EXPORT PROMOTION ACTIVITIES FOR A BROAD RANGE OF AGRICULTURAL PRODUCTS. FOR THE FOREIGN AGRICULTURAL SERVICE AND THE GENERAL SALES MANAGER'S OFFICE, WE ARE REQUESTING FUNDING RELATIVELY UNCHANGED FROM THE FY 1988 LEVELS.

THE P.L. 480 PROGRAM ALSO CONTINUES TO SERVE OUR LONG-TERM MARKET DEVELOPMENT OBJECTIVES, WHILE PROVIDING VALUABLE COMMODITY ASSISTANCE AND ECONOMIC DEVELOPMENT SUPPORT TO DEVELOPING COUNTRIES THROUGHOUT THE WORLD. WE ARE PROPOSING A PROGRAM LEVEL OF $1.4 BILLION FOR P.L. 480 FOR FY 1989, WHICH SHOULD PROVIDE FOR COMMODITY SHIPMENTS OF ABOUT 6.7 MILLION METRIC TONS. THIS REPRESENTS A SMALL REDUCTION FROM THE TONNAGE LEVEL CURRENTLY ESTIMATED FOR FY 1988, BUT WOULD REMAIN WELL ABOVE THE ANNUAL TONNAGE LEVELS OF THE EARLY 1980s.

SMALL COMMUNITY AND RURAL DEVELOPMENT

THE BUDGET PROPOSES CONTINUED FUNDING FOR RURAL DEVELOPMENT PROGRAMS AND INCREASED FUNDING FOR GUARANTEED FARMER PROGRAM LENDING. INCREASED USE OF PRIVATE SECTOR FINANCING IS ALSO PROPOSED FOR THE COSTLY DIRECT LENDING PROGRAMS OF THE RURAL ELECTRIFICATION ADMINISTRATION (REA). FUNDING FOR CROP INSURANCE

WILL PROVIDE FOR EXPANDED PROTECTION AGAINST DISASTER LOSSES. I WOULD LIKE TO FOCUS SOME ADDITIONAL COMMENTS ON FARM CREDIT AND RURAL DEVELOPMENT INITIATIVES.

FARM CREDIT. THE FARM CREDIT BUDGET FOR FMHA CONTINUES THE SHIFT FROM DIRECT LOANS TO GUARANTEED LOANS ESTABLISHED IN THE FOOD SECURITY ACT OF 1985. GUARANTEED LENDING IS PROJECTED TO INCREASE FROM ABOUT $1.6 BILLION IN FY 1987 TO $3.6 BILLION IN FY 1989. TOTAL DIRECT AND GUARANTEED LENDING WILL INCREASE FROM $3.1 BILLION IN FY 1987 TO $4.2 BILLION IN FY 1989.

FMHA WILL CONTINUE EFFORTS TO ASSIST ITS BORROWERS THROUGH SUCH SERVICING ACTIONS AS SUBORDINATIONS, RESCHEDULINGS, AND DEFERRALS. IN ADDITION, AS PROVIDED IN THE AGRICULTURAL CREDIT ACT OF 1987, THE AGENCY WILL RESTRUCTURE DEBT--WRITE DOWN DEBT TO THE CURRENT VALUE OF COLLATERAL IF NECESSARY--WHERE THE EXPECTED PAYMENTS FROM THE FARMER AFTER RESTRUCTURING EXCEED PROCEEDS EXPECTED FROM LOAN ACCELERATION AND FORECLOSURE.

THE BUDGET PROVIDES FOR EXPANDED USE OF OPERATING LOANS GUARANTEED BY FMHA AND MAINTAINS THE AGENCY ROLE OF LENDER OF LAST RESORT WITH CONTINUED DIRECT OPERATING AND EMERGENCY LOAN PROGRAMS. A LIMITED GUARANTEED LOAN PROGRAM IS EXTENDED FOR REAL ESTATE LOANS, AND THE INTEREST BUY-DOWN PROGRAM AUTHORIZED IN THE 1985 FARM BILL HAS BEEN REVISED AND EXTENDED BY THE AGRICULTURAL CREDIT ACT OF 1987.

RURAL DEVELOPMENT INITIATIVES

THE STRUCTURAL CHANGES OCCURRING IN AGRICULTURE MAKE IT NECESSARY FOR MANY RURAL AREAS TO MAKE EFFORTS TO DIVERSIFY THEIR ECONOMIES AND BECOME LESS DEPENDENT ON AGRICULTURE AS A PRIMARY SOURCE OF EMPLOYMENT. TO ASSIST IN THESE EFFORTS WE HAVE INCLUDED FUNDS IN THE BUDGET FOR CONTINUING FMHA'S RURAL DEVELOPMENT PROGRAMS INCLUDING $250 MILLION IN DIRECT LOANS AND $75 MILLION IN GRANTS

FOR WATER AND WASTE DISPOSAL PROJECTS, $50 MILLION IN DIRECT LOANS FOR OTHER COMMUNITY FACILITIES, AND $96 MILLION FOR BUSINESS AND INDUSTRIAL LOAN GUARANTEES.

THE RURAL DEVELOPMENT INITIATIVE ANNOUNCED BY THE DEPARTMENT LAST YEAR INCLUDED A CHANGE IN THE BUSINESS AND INDUSTRIAL LOAN GUARANTEE PROGRAM WHICH WILL TARGET ASSISTANCE TO RURAL AREAS ADJUSTING TO CHANGES IN AGRICULTURE. THE PROGRAM IS NOW AVAILABLE TO SMALL SCALE, FAMILY-SIZED ENTERPRISES IN AREAS IN WHICH FARMERS ARE ATTEMTPING TO MAKE THE TRANSITION TO NON-FARM EMPLOYMENT. THE CHANGE IMPROVES THE TARGETING OF THE PROGRAM AND INCREASES THE LEVEL OF ASSISTANCE WITHOUT ADDITIONAL EXPENDITURES.

IN ADDITION, THE EXTENSION SERVICE IS WORKING WITH STATE AND LOCAL OFFICIALS TO FOCUS ON RURAL DEVELOPMENT ISSUES. RURAL ENTERPRISE TEAMS HAVE BEEN ORGANIZED TO ASSIST IN BUSINESS DEVELOPMENT, JOB TRAINING, AND FINANCIAL MANAGEMENT NEEDS. A JOINT EXTENSION SERVICE AND NATIONAL AGRICULTURAL LIBRARY INFORMATION CLEARING HOUSE HAS BEEN ESTABLISHED TO PROVIDE LOCAL OFFICIALS WITH UP-TO-DATE INFORMATION ABOUT FEDERAL PROGRAMS.

ALSO, AS PART OF OUR RURAL DEVELOPMENT EFFORTS, THE BUDGET INCLUDES FUNDING FOR THE RESOURCES CONSERVATION AND DEVELOPMENT PROGRAM IN THE SOIL CONSERVATION SERVICE (SCS). SCS PROVIDES PLANNING, TECHNICAL AND FINANCIAL ASSISTANCE TO MULTI-COUNTY AREAS WHERE THERE ARE OPPORTUNITIES TO DIVERSIFY THEIR ECONOMIES BY DEVELOPING THEIR NATURAL AND ECONOMIC RESOURCES.

THE BUDGET AGAIN INCLUDES THE ADMINISTRATION'S PROPOSAL TO REPLACE THE VERY COSTLY FMHA HOUSING LOAN AND GRANT PROGRAMS WITH A HOUSING VOUCHER SYSTEM THAT WOULD ALLOW RECIPIENTS MORE FLEXIBILITY IN OBTAINING ADEQUATE HOUSING. A DEMONSTRATION OF RURAL HOUSING VOUCHERS WAS AUTHORIZED IN THE RECENTLY ENACTED HOUSING ACT, BUT IT WAS DETERMINED THAT ADDITIONAL APPROPRIATIONS ACTION WOULD BE REQUIRED TO IMPLEMENT THE PROGRAM IN 1988. WE ARE NOW REVIEWING ALTERNATIVES TO SEE WHAT ADDITIONAL ACTION WE MAY

WISH TO RECOMMEND TO THE CONGRESS IN ORDER TO BEGIN THIS DEMONSTRATION PROGRAM THIS YEAR.

THE BUDGET ALSO INCLUDES REFORMS TO THE RURAL ELECTRIFICATION ADMINISTRATION (REA) LENDING PROGRAMS. NEARLY ALL REA BORROWERS CAN BORROW IN PRIVATE CREDIT MARKETS. THE BUDGET INCLUDES A PROPOSAL FOR REA BORROWERS TO UTILIZE LESS COSTLY PROGRAMS OF PARTIAL REA GUARANTEES OF PRIVATE FINANCING TO MEET THEIR NEEDS. THE USE OF PARTIAL GUARANTEES WILL HAVE VERY LITTLE IMPACT ON THE RATES CHARGED CUSTOMERS. WITH THE EVER INCREASING PRESSURE TO REDUCE THE FEDERAL DEFICIT, REFORMS TO THE REA PROGRAMS WILL MAKE ROOM FOR HIGHER AGRICULTURAL SPENDING PRIORITIES.

THE BUDGET ALSO PROPOSES TO MODIFY AND EXTEND FOR ONE YEAR THE OPPORTUNITY FOR BORROWERS TO PREPAY, WITHOUT PREMIUM, EXISTING LOANS MADE BY THE FEDERAL FINANCING BANK AND GUARANTEED BY REA. REA WOULD GUARANTEE PRIVATE SECTOR FINANCING FOR THE PREPAYMENT OF LOANS. RURAL TELEPHONE BANK BORROWERS WOULD BE ABLE TO PREPAY, WITHOUT PREMIUM, INDEFINITELY.

SOIL AND WATER CONSERVATION

THE TOTAL BUDGET LEVEL FOR THE SOIL AND WATER CONSERVATION PROGRAMS IS REQUESTED AT ABOUT $2.5 BILLION -- NEARLY TRIPLE THE LEVEL IN FY 1985. THE FY 1989 BUDGET REFLECTS THE FUNDING THAT IS REQUIRED TO IMPLEMENT THE PROVISIONS AUTHORIZED IN THE CONSERVATION TITLE OF THE FOOD SECURITY ACT OF 1985. IN ADDITION TO INCREASING THE PROGRAM LEVEL FOR THE SOIL CONSERVATION SERVICE TECHNICAL ASSISTANCE, THERE ARE PROPOSALS TO REFORM, RESTRUCTURE AND FUND THE WATERSHED PROGRAMS. THE RESOURCE CONSERVATION AND DEVELOPMENT PROGRAM WILL BE CONTINUED AND WILL CONTRIBUTE TO ACHIEVING IMPORTANT RURAL DEVELOPMENT GOALS. APPROPRIATIONS FOR USE BY THE COMMODITY CREDIT CORPORATION DURING THE FOURTH YEAR OF THE CONSERVATION RESERVE PROGRAM (CRP) ARE REQUESTED AT NEARLY $1.9 BILLION.

Again this year, because of fiscal policy reasons, the budget proposes termination of a number of other conservation financial assistance programs. Last year, USDA policy officials, in testimony before this Committee, provided assurances that FY 1988 conservation programs would be administered in full compliance with both the letter and the spirit of the 1988 Appropriations Act and this is indeed being done.

The budget requests funds for the Soil Conservation Service to service requests from farmers. Many of these requests are associated with the CRP, sodbuster, swampbuster and conservation compliance. The budget also includes a reduced funding request for merging the SCS water resource programs. There are significant opportunities to make this program more efficient and meaningful in addressing current problems. There are legislative proposals for requiring non-Federal cost sharing of flood protection projects, as already done for Army Corps of Engineers projects, and for assuring that these projects have substantial agricultural benefits. Also, there are plans to be more selective in making planning and construction start decisions, including eliminating the price and income support incentives to construct projects. We hope the Administration's recommendation for funding these programs will lead to a positive dialogue with Congress in both the substantive and appropriations committees.

Concerning the Conservation Reserve Program, during the first five signups for the program we have enrolled nearly 23 million acres of highly erodible cropland. Soil erosion savings from this land are over 20 tons per acre. The sixth signup was held from February 1 to 19. The bids are being analyzed and an announcement of the accepted bids should be made by mid-March. This announcement is about two weeks later than usual because the county ASCS committees have the responsibility of assuring that rental rates under the new CRP contracts are not in excess of the

PREVAILING LOCAL RENTAL RATES FOR AN ACRE OF COMPARABLE LAND AS REQUIRED IN THE 1988 APPROPRIATIONS ACT.

RESEARCH AND EXTENSION

OUR PROPOSALS FOR RESEARCH WILL PROVIDE FOR THE DEVELOPMENT OF THE TECHNOLOGICAL BASE OUR AGRICULTURAL PRODUCERS NEED TO REMAIN COMPETITIVE IN A CHANGING WORLD MARKETPLACE. WE HAVE CAREFULLY STRUCTURED THESE PROPOSALS TO PROVIDE FOR LONG-TERM NEEDS, TO ADDRESS THE IMMEDIATE ISSUES FACING PRODUCERS TODAY, AND TO INCLUDE A STRONG COMPONENT OF TECHNOLOGY TRANSFER TO MAKE CERTAIN THAT THE RESEARCH WE PRODUCE REACHES THOSE WHO CAN IMPLEMENT IT.

FOR THE AGRICULTURAL RESEARCH SERVICE WE ARE REQUESTING AN INCREASE OF $20 MILLION FOR THE RESEARCH PROGRAM. THE INCREASE WILL FUND RESEARCH TO ADDRESS GROUNDWATER QUALITY AS WELL AS FOOD SAFETY CONCERNS RELATED TO PESTICIDE AND BACTERIAL CONTAMINATION OF FOOD PRODUCTS.

OUR PARTNERSHIP WITH THE LAND-GRANT UNIVERSITIES RECEIVES CONTINUED STRONG SUPPORT IN THE BUDGET. IN ADDITION TO CONTINUED FUNDING FOR THE BASIC HATCH ACT FORMULA AT THE 1988 LEVEL, WE ARE PROPOSING AN INCREASE FOR THE COMPETITIVE GRANTS PROGRAM. WE PLAN TO INCREASE FUNDS FOR MOST OF THE MAJOR RESEARCH AREAS IN THE PROGRAM AND INITIATE A NEW PROGRAM TO ADDRESS CONCERNS OF THE EFFECTS OF OZONE DEPLETION ON MAJOR CROP PLANTS. WE WILL ENCOURAGE INCREASED MINORITY PARTICIPATION IN THE AGRICULTURAL SECTOR THROUGH ENHANCED RESEARCH FUNDING AT THE 1890 INSTITUTIONS AND CONTINUATION OF OUR 1890 HIGHER EDUCATION GRANTS. THE ADDITIONAL RESEARCH WILL SUPPORT OUR RURAL DEVELOPMENT AND SMALL-SCALE FARM NEEDS.

THE EXTENSION SERVICE, WORKING IN CLOSE COORDINATION WITH THE STATES, PRODUCERS, COMMODITY ORGANIZATIONS AND OTHER INTERESTED PARTIES, HAS RECENTLY DEVELOPED A SET OF NATIONAL PRIORITY initiatives to re-focus its programs. We are proposing a shift from the general formula to fund increased activity in agricultural profitability and in rural development. We will also be instituting two new information centers at the National Agricultural Library to enhance our ability to transfer new technologies and disseminate rural development information.

Economics and Statistics

Maintenance of competent programs for the collection of agricultural statistics and for economic analysis and research continues to be a high priority. We are proposing modest increases for surveys and analyses of seasonal agricultural labor to comply with the requirements of the Immigration Reform and Control Act of 1986 and other priority initiatives.

Marketing and Inspection

Consistent with the budget summit agreement, no new user fee proposals are proposed in FY 1989. The budget continues efforts to terminate or phase out low priority programs while maintaining or expanding critical programs in the marketing and inspection area. Funding for the Animal and Plant Health Inspection Service will be reduced by $34.5 million reflecting cuts in the brucellosis, pseudorabies, boll weevil and animal damage control programs. However, the Department will continue to strengthen its front-line defense against the introduction of foreign plant pests and animal diseases. An increase of $6.4 million is being proposed for the agricultural quarantine inspection program to provide additional staff at selected airports and to implement new airport baggage screening methods. Should a foreign pest or disease penetrate this defense, the budget also provides $5.0 million to control emergency outbreaks and an increase of $2.5 million for the pest detection and animal disease detection programs to ensure that the outbreak is caught early and eradicated quickly. A $13.7 million increase for the Food Safety and Inspection Service will provide for expanded biological testing of meat and poultry products for chemical and antibiotic residues.

Domestic Food Assistance Programs

The budget for the Food and Consumer Services programs reflects program activity based on current law. In the Food Stamp Program, the scheduled increase in the Thrifty Food Plan will result in an increase in benefits for all households. Funding for the Child Nutrition Programs reflects projected increases in per meal reimbursement rates and program participation. For the Supplemental Feeding Programs we are requesting funds to support at least 3.8 million women, infants, and children per month and about 80 thousand elderly persons per month.

Departmental Management

The budget for Departmental Administration staff offices includes increases for the Inspector General for increased program operations, for the Office of the General Counsel for a major automation project and for other centralized services provided by Departmental Administration. Also, there is an increase for the central fund used to finance agency operations to identify and cleanup hazardous waste as required by law. We believe these increases are of high priority and are needed to carry out the work of the Department. The funds requested represent a very small proportion of the overall Department request.

Mr. Chairman, this concludes my formal statement. In many respects this year's budget is different from those of prior years. I believe our proposed budget addresses the priority needs of American agriculture in view of our pressing national need to reduce the deficit. I urge the Committee to consider our proposals carefully during your deliberations. I will be glad to respond to any questions you may have.

THE FARM ECONOMY

Secretary LYNG. The agriculture economy has begun to stabilize, and, in some significant aspects, to recover from the unfavorable trends of recent years. The Food Security Act of 1985 has played a significant role in turning things around. Declining surplus stocks have contributed to strong market prospects for many commodities. Cash farm income was a record $57 billion in 1987 and is expected to remain high at $50 to $55 billion in 1988. However, government payments still represent too high, in my opinion, a proportion of farm income.

Export prospects are improving; volume increased from 110 million metric tons in 1986 to 129 million metric tons in 1987 and is expected to climb again to 141 million metric tons in 1988. Export value is also up nearly 22 percent over the past 2 years. We are working hard to further improve the export picture through negotiations and actions to deal with unfair trade practices. As the farm economy improves, farm debt levels are being reduced. In addition, land values in Illinois, Iowa, Kansas, and Nebraska are estimated to have increased 8 to 10 percent last year.

There are still trouble spots, and we will continue to use our legal authorities, particularly those of the Farmers Home Administration, to work with farmers who are in need of extra help. And now, with respect to the budget.

1989 BUDGET OVERVIEW

The 1989 budget is consistent with the Summit Agreement. It does not propose new user fees, changes in the Food Assistance Program, changes in the Crop Insurance Program, or significant changes in the farm programs, except sugar. Also, consistent with the Summit Agreement, the budget does not propose supplementals or rescissions for 1988. It is a fiscally responsible budget, but at the same time, provides the necessary funding for a number of significant proposals which I will mention in these remarks.

Everyone should remember that the biggest USDA spending programs are largely uncontrollable, and estimates are, therefore, very tentative. CCC estimates anticipate general economic conditions, individual planning decisions for thousands of farmers, and the weather. Food assistance programs respond to a variety of economic factors.

Now, with reference to the specifics of the budget.

MAJOR PROPOSALS OF THE 1989 BUDGET

The budget estimate for cash outlays for USDA is $48.3 billion in 1989, a reduction of $2.4 billion or about 5 percent below the $50.7 billion now estimated for 1988. Our appropriations request before this committee is, in fact, reduced by almost $10 billion from $51.9 billion to $41.9 billion. The vast majority of this reduction is due to reduced cash requirements in the Commodity Credit Corporation. Lower outlays for CCC activities in both 1988 and 1989 have also reduced the appropriations requirements of the CCC.

CCC outlays are estimated at $17.1 billion. When compared to estimates made last fall, total CCC outlays for 1988 and 1989 are down nearly $5 billion. About half this reduction is due to changes in supply and demand estimates, and about half is due to the Reconciliation Act of 1987. To fund the CCC, the budget requests a current indefinite appropriation as authorized in the 1987 Reconciliation Act.

Program level for international programs is down about $1.9 billion. The major change is in the estimate for short-term export credit guarantees. We have simply not been able to use the full $5 billion authorized by the Congress for this program. Other export programs will be maintained at near current levels.

The Farmers Home Administration includes $4 billion for farm operating loan and $471 million for rural development activities. The latter includes funding for water and sewer systems, community facilities and business and industrial development. Housing programs would be converted to vouchers.

REA reflects continued proposals to convert federal lending to private sector guarantees. We feel that the REA system is healthy enough to make this change.

Funding for SCS maintains conservation technical assistance and the Resource Conservation and Development Program. Water resource programs are funded at reduced levels. These proposals will permit SCS to meet its workload and to make a meaningful contribution to our overall rural development effort.

We are requesting almost $1.9 billion for the Conservation Reserve Program. This will fund rental costs on the 23 million acres already in the program and cover costs on additional acres which may be signed up this year. Again this year, no funds are requested for agriculture conservation programs or the other ASCS conservation cost-shared programs.

Funding for research and education programs is requested at about $1.1 billion, roughly $100 million below the 1988 level. Funding for the Agricultural Research Service is up $20 million, with emphasis on the agricultural impacts on gound water, the development of better testing methods for pesticides and bacterial residues in meats. The budget also includes $11 million for construction of a new National Seed Storage Laboratory.

The budgets for CSRS and the Extension Service are reduced largely due to renewal of proposals to cut or eliminate special grants. The budget does provide for increased competitive grants, increased funding for 1890 institutions and $22 million in new funding for Extension Service initiatives in rural development, agricultural profitability, nutrition and natural resources.

Marketing programs are budgeted at essentially the 1988 levels. Low priority programs, such as boll weevil, animal damage control, wholesale market development, and the Federal Seed Act, are reduced or terminated. Increased funding is provided for areas such as agricultural quarantine inspection and stepped up FSIS testing for residues. Economic and statistical programs are maintained at the 1988 level with some increased funding to implement the Immigration Reform Act.

Food assistance programs are budgeted at essentially the current law level. The request for over $21 billion for these programs represents a substantial commitment to assuring that food assistance is provided to needy Americans. Some of our staff support activities are increased, especially the Office of General Counsel and the Office of Inspector General. The central fund for hazardous waste management has increased from $2 million to $10 million. We need to be sure that we meet our responsibilities to deal with hazardous waste problems generated by USDA activities.

We look forward, Mr. Chairman, and members of the committee, to working with the committee this year. As you review the budget, we urge you to work hard to produce individual appropriation bills in time for transmittal to the President before the beginning of the next fiscal year. As a Cabinet officer with responsibility for over 250 programs and over 100,000 employees, I am very much aware of the problems created for our program managers when funding decisions are not made until long after the fiscal year has begun.

I am also very mindful of the need to give the Congress and the President time to review appropriation bills and have a fair chance to express their views on these matters. The presentation of the gigantic governmentwide continuing resolution in the waning days of the session is not the way to do business.

I will be happy, Mr. Chairman and members of the committee, to try to respond to your questions. Thank you very much.

Senator BURDICK. Senator Grassley, do you have an opening statement?

Senator GRASSLEY. No; but I will have some questions to ask.

Senator BURDICK. Yes, of course.

Senator GRASSLEY. Thank you, Mr. Chairman.

Senator BURDICK. Senator Bumpers, do you have an opening statement?

Senator BUMPERS. No statement, Mr. Chairman.

PREPARED STATEMENT

Senator GRASSLEY. What I should have said is I have one to include in the record. Can I do that?

Senator BURDICK. Certainly. It will be received.

[The statement follows:]

STATEMENT OF SENATOR GRASSLEY

Secretary Lyng, I'd like to extend my welcome to you today. I appreciated your thoughts on the current agriculture outlook. I share your optimism about the improved agriculture picture. The increase in agriculture exports and the drop in land prices you mentioned are encouraging signs. You mentioned in your remarks, that the 1985 Food Security Act is "gradually moving American agriculture to a more sustainable market oriented basis." Although many of agriculture's economic measurements are positive, I would caution, that the key word in your statement was gradual.

Agriculture's transition may be complete for a majority of our producers. There are still a great number of people, however, who have yet to share in any recovery. Others still are only beginning to feel the ripple effects of the farm crisis. The continuing exodus of people from our rural areas is a problem which will impact our social structure well into the next decade.

REA PROGRAMS

Senator BURDICK. Mr. Secretary, I note the REA budget this year provides zero for direct loans and zero for guaranteed loans. It seems that every year, the administration has attempted to phase out these programs. This year we are not faced with a phaseout, but we are faced with elimination of these programs.

REA is one of the most successful programs this country has ever undertaken. I, for one, am not going to sit by while we turn out the lights in North Dakota and rural America. This is not rural development; this is rural demolition, is it not?

Secretary LYNG. No, not at all, Mr. Chairman. It is abundantly clear now that these rural electric cooperatives can obtain the funds they need from sources other than the government. In order to help them obtain these funds at reasonable rates of interest and to minimize the impact on the federal budget, we are proposing that these be guaranteed rather than direct loans. I think this has worked well in the past and we would propose that it now be expanded.

Senator BURDICK. But the guaranteed loans by the government are also zeroed out in your proposition, is it not?

Mr. DEWHURST. No, sir; the loans that we know as guaranteed loans are loans made by the Federal Financing Bank and guaranteed by the REA. Those would be terminated in this budget.

The administration proposes to replace the current program with a system where private lenders would make the loans with federal guarantees, there is $1.3 billion in the budget for the new system.

Senator BURDICK. And those loans will carry a higher rate of interest, then, that the farmer would have to pay?

Secretary LYNG. Well, I think they would be higher than some of the very low rated loans that we have had in the past, but not substantially higher. I think that they would still have favorable interest rates. They would reflect the government guarantee. They would not be at a subsidized interest rate.

Senator BURDICK. I don't suppose you have any figure of what the extra cost would be to the farmer for the REA drop.

Secretary LYNG. Well, I think we could make some estimates and submit it for the record, if you would like, Mr. Chairman. What we can do would be to calculate an estimate of what the interest rate would be under these guaranteed loans in the private sector and compare that with the subsidized loans that were more in the nature of direct loans.

[The information follows:]

The REA goals of providing basic electric and telephone service to rural areas is basically accomplished and the cooperatives are financially sound enough to continue these functions without significant federal assistance. The administration's proposal would maintain some involvement by issuing guarantees of private sector loans, and the Rural Telephone Bank would continue to make direct loans through 1995.

The administration's proposal would not result in a substantial increase in the rates paid by rural consumers. For example, if an average electric distribution borrower obtained a 70-percent REA guarantee of a privately originated loan, rather than the current 5-percent REA direct loan with a 30-percent supplemental financing loan from the Cooperative Finance Corporation, the borrower's total annual interest cost would require an increase of 74 cents per month in the monthly bill of the average consumer.

Senator BURDICK. I don't know of any program that has done more for rural America than the REA Program. It seems to me this is very short sighted to abandon these programs which have meant so much to the farm communities and the farms of the country. Why do you pick on these programs?

Secretary LYNG. We are not trying to abandon them, but we are minimizing to some extent, or reducing to some extent, the subsidy. It seems to me that we are reflecting some of the changes that have taken place in rural America. Many of these projects have been completed.

Senator BURDICK. Well, the changes I hear about, they still need this money just like they did 10 years ago; they need this money for their operations. Why at this particular time do we pull these programs out from under them? That is my question.

Secretary LYNG. It is our opinion that this is a good time to do that. The program that we propose will satisfy the needs of those borrowers with less subsidies from the federal government.

SUNFLOWER OIL

Senator BURDICK. Mr. Secretary, as you know, I inserted in the fiscal year 1988 appropriations act $10 million for purchasing sunflower oil, which oil will then be used to promote sunflower oil exports. How are you implementing this program, and what effect do you think the program will have on the sunflower market in this country?

Secretary LYNG. I am not prepared to answer that. I don't know whether anyone else here is. As the hearings progress, you will have the Administrator of the Agricultural Stabilization and Conservation Service. I would defer to him, or if you wish, I will submit a detailed reply to that question.

Senator BURDICK. I think it is a very important program, and I hope that we can get some information.

Secretary LYNG. We will submit the information for the record.

[The information follows:]

Our people are working hard on implementing this program, but there are a number of operational difficulties which must be overcome. For example, our normal section 32 bidding process for the purchase of commodities may not be workable in this instance because this program could represent 20 percent of their total annual production. In addition, we need to be sure that we do not run this program in such a way as to displace normal U.S. commercial sales. We have consulted with the industry concerning these matters and will keep you informed of developments.

STORAGE LOANS

Senator BURDICK. Mr. Secretary, in the reconciliation bill passed by Congress in December 1987, Congress changed the Producer Reserve Program so that the minimum quantity of wheat to be stored is 300 million bushels and for feed grains it is 450 million bushels.

Recently, you have announced that all existing 1987 crop wheat and feed grain producer storage loans that mature after March 1, 1988, will not be extended. Producers will also not be allowed to roll over the loan premiums for farmer-owned reserves. Many of our farmers are concerned that this grain would be moved off their farms, where the government pays lower storage rates than to commercial storage. They are concerned that this grain will not be exported but instead, will be left to sit in commercial storage, thereby costing the federal government more in storage costs.

Is this correct?

Secretary LYNG. No; that isn't correct. I know there has been some concern about this, because many growers who have had grain for a long time in government storage contracts are reluctant to see that grain moved out of those storage facilities. But we have made a major change in our stocks, Mr. Chairman.

We are reducing the stocks of wheat, of corn, of other grains very materially, and we simply are not going to have the large volume of grain that we have had in the past. There will be a major reduction in the carryover of wheat, corn, and other grains. This means that there will be less in storage, whether it be on farms or in commercial storage, and it is important now that we move the grain out of facilities where we have longer-term contracts into places where it can be moved quickly for export, sales, or domestic usage.

As a matter of fact, we will see most of the grain, if not all of it, that is moved from farms into commercial storage moved on rather quickly into export or domestic usage.

Senator BURDICK. I certainly agree with you. I would like to see it move into export instead of staying in the large elevator operations where you have to pay a higher storage rate. But your intention and your plan is to move this as quickly as possible to export markets?

Secretary LYNG. Yes; we think we need to move it out of the Farmer Owned Reserve and similar programs because we need to have it available to fill exports.

Senator BURDICK. If USDA determines that it cannot export most of this grain, will USDA continue to keep storage in commercial elevators, or will USDA allow producers to store the grain on the farm thereafter?

Secretary LYNG. Well, we will continue some storage on farms. We have no policy of moving grain from farms into commercial storage simply to have it in storage.

The reason for moving it is to make it available for sale in a much more flexible way than in the longer term contracts under the Farmer Owned Reserve.

Senator BURDICK. Senator Stennis.

REA PROGRAMS

Senator STENNIS. Mr. Chairman, as I said in the beginning, I am here today because of a very long term interest. I want to thank these gentlemen for what they are doing, and I support their program generally, but I will not help eliminate certain services because I think it makes a difference. Take the REA. It may not be perfect, but it is rendering a service that no one else will render, and I come from a rural state and am proud of it.

I have lived close to the land, and I am not an expert, but without things like the REA, great areas of the country would have been abandoned if it had not have been for the government program, the REA. I think it has been well handled, but it seems to me, that we just can't consider abandoning it or making the fundamentals of financing it too severe.

As I drive through the areas of my state or any other state, I can tell something about what already is contributed. It makes a difference. As I say, I think it is necessary and we have got to continue. We ought to do it on as sound a basis as we can for the taxpayer, and I think we will. The Secretary and his staff have done well as far as I can tell.

So I am here to back it up, as I have already indicated, and I believe there is the general prevailing need.

Senator BURDICK. Senator Kasten.

CONSERVATION RESERVE PROGRAM

Senator KASTEN. Mr. Chairman, thank you.

Mr. Secretary, I have a couple of questions about the Conservation Reserve Program. First of all, has the Department given any thought to the possibility of expanding the scope of the CRP to include not just more highly erodible cropland, but for example, cropland with porous soils through which pesticides leach easily into the ground water? This is a very serious problem in Wisconsin. There is more and more concern about the quality of the ground water.

I am not asking you to change your regulations right now, but I just wanted to publicly get a comment or two on this problem. Is there a way that we might consider, somehow, trying to deal with this porous cropland through which the pesticides are leaching quickly and are having an effect on the ground water?

Secretary LYNG. Yes; in December, I announced that we were working on a new program to get more forests into the long-term Conservation Reserve Program. This was not designed to change the question of whether it would be highly erodible land, but to make land that had not been used in certain crops more eligible. This was well received. I don't think we have completed the regulations. They haven't been proposed yet.

Senator KASTEN. Related to part of that, at least, was the effort at trying to include border strips?

Secretary LYNG. Yes; we have done that.

Senator KASTEN. And some less erodible acreage. I think that particular part has been very well received, at least in Wisconsin and throughout the Midwest.

Secretary LYNG. Yes; that has some benefits in getting clean water and water conservation.

Senator KASTEN. One other related issue has come up in Wisconsin. As you know, we have a long tradition, well before the 1985 farm bill, of concern about soil conservation. We have got a number of farmers that were taking care of their fragile cropland and not letting it erode years and years ago, and that group of farmers finds itself ineligible for the CRP. In other words, the law was written to take only land in the CRP that was eroding heavily, and if you don't have erosion, if you have dealt with it yourself, you don't have a problem.

Now, I helped write the law that way, but we are looking at that. The question that has come up, and it is coming up in Wisconsin and other Midwest states, is now that we are well along to achieving some of the original objectives of the CRP, might it be possible to consider working with the program to somehow recognize those farmers who have always worked to reduce erosion on their land?

Secretary LYNG. I would like to ask Peter Myers, my Deputy, to respond to that. He is more familiar with those details of the program than I am.

Mr. MYERS. Senator, the goal and the stated purpose in the law was to take highly erodible cropland and put it into permanent cover. So the law precludes us from taking anything other than cropland and putting it in the Conservation Reserve at this time.

Now, I would go back to your first question on porous land. Under an overall objective, we are looking at any type of ramification that we can use to improve problems with ground water. We are not specifically focusing on porous land at this point. But that would be something we would look at in a study of how we could positively impact ground water.

Senator KASTEN. I am pleased with your response, Mr. Secretary, and Deputy Secretary Myers. I think as we look at the next couple of years, this ground water question will be a particularly important one, and it may be that the success that we have had in the Conservation Reserve can be pushed a little bit into this ground water area. If that could be the case, I think we would really be making a contribution.

THE DAIRY PROGRAM

Let me ask, Mr. Chairman, one final question on the dairy program. The current law is set up, Mr. Secretary, as you know, so that the support price falls 50 cents per hundredweight if the CCC purchases are estimated each year to be over 5 billion pounds.

The government uses the better part of 5 billion pounds worth of dairy products in its nutrition and commodity distribution programs and would do this even if there was no price support program. The price support cut hits the upper Midwest hardest, though the greatest growth in milk-producing capacity is not coming from the upper Midwest; it comes from the west coast and Texas. The farmers in Wisconsin are more and more questioning the fairness of this, and I think they are right.

I would like to get your thoughts on whether the time has come to make fundamental changes in federal dairy policy, both in the price support program, and in the area of milk marketing orders. It seems to me that the time may have come to direct dairy policy less at supporting the price of milk and more at supporting family farmers, the people who theoretically, at least, are supposed to benefit from farm programs. You are very familiar with the dairy industry, and I just want to ask if you agree with this? Do you think it might be time for us to start to review both the price support program and the milk marketing orders?

Secretary LYNG. Senator Kasten, I think there is always some value in reviewing and trying to determine if there isn't something that can be done a better way. But as we have done that over the years, and looked at our dairy programs, we have found that even though they are complex and at times they get a little bit out of sync with reality, they have worked rather well for the dairy producers and consumers.

We now have a Dairy Policy Commission that was called for in the 1985 Food Security Act. This group is about to complete their study and make some recommendations on the very issues that you have mentioned.

They have been taking a look at the marketing order system and the dairy price support system. There is no question about it, this is a constantly changing area. Dairy cows get more and more productive, and dairy farmers get better at handling their herds. Changes in the federal government's Farm Program have made grains less expensive than they otherwise would be, and have created some changes in the advantages of production in areas where grain is a heavy ingredient, such as in the production of milk.

As time goes on, we are going to see new hormones and other techniques and technology that will change the production of milk, and so I think there is probably a need for a fairly constant review of our dairy policy. I don't think there is a critical need for something to be done to meet a crisis. I don't think we have, on a national basis, in any case, what could be determined as a crisis right now.

Senator KASTEN. Mr. Secretary, I look forward to working with you, particularly as we look at the geographic impact of current dairy policy. I think where we might disagree is that the program might be working well for the taxpayers, but is causing some regional dislocations that work to the detriment of the farmers in my state. I think that is what we want to be looking at. I thank you very much, Mr. Chairman.

Senator BURDICK. Senator Grassley.

BUDGET SUMMIT AGREEMENT

Senator GRASSLEY. Thank you, Mr. Chairman. Mr. Secretary, just a commentary. First of all, you mentioned that agriculture had contributed its fair share to the budget summit and the compromise, and the administration was within that summit agreement.

I guess my conclusion would be, you did that, but I think that the fair share is probably, from my estimation, if you look at the percentage of our budget in agriculture to the total budget, more than our fair share. As I see the relationship of agriculture to the total budget, and the amount we actually contributed, percentage wise, we actually contributed more than our fair share.

In regard to reaching this figure, Mr. Secretary, did you factor in the expected sale of USDA's soybean inventory to arrive at the 1989 budget figure?

Secretary LYNG. I am going to let our Budget Officer answer that. As I pointed out in my summary statement, all of the expenditures under the Commodity Credit Corporation are based upon estimates that we will have, and I am not sure to what extent the sale of soybean inventory was considered.

Senator GRASSLEY. Would you answer that? I believe it was a factor, right?

Mr. DEWHURST. Yes, sir; that is correct.

Senator GRASSLEY. OK. How much did that amount to, within $20 or $25 million?

Secretary LYNG. I don't think we can give you that figure, Senator. We can take a look at what our estimates were and try to calculate how much we allocated to that.

Senator GRASSLEY. Last December, I think we had about 250 million bushels of soybeans in the USDA inventory. I would like to have that figure for the record, then, but this would lead me on to a followup question.

I think the decision to include soybean sales as budget savings was the right decision. But I, and I think, several other members of the Senate Agriculture Committee, requested that we include whatever that amount was in December so that it would count toward the budget summit agriculture program savings. At that point, this inventory and the revenues for sales had not yet been included in the balance sheet. I was told at that point that the administration would not allow the sale of soybeans to be included in the revenue estimates, and so I would like to have, regardless of what that number is, an explanation for why the administration would not allow this during budget process, but now it does.

Secretary LYNG. I'm sorry, Senator. You know, those were closed sessions, and I was not a member of that negotiating group.

Senator GRASSLEY. We got the answer that agriculture's position was that you did not want to do that. Now you are doing it. I am not complaining; I just want to know what the change of attitude was.

Secretary LYNG. I really don't understand that. We have never been hesitant to acknowledge that there was going to be some offsetting income. We have seen quite a lot of that this year, not only from soybeans, but for other commodities in CCC. We have had good sales, and good redemptions, substantial amounts. We have never tried to keep those. I will certainly look and see.

Senator GRASSLEY. Maybe you can submit an answer in writing, then. Will you?

Secretary LYNG. We will be happy to do so.

[The information follows:]

The budget for the Commodity Credit Corporation (CCC) includes $2.5 billion in savings during the fiscal year 1988-89 period, resulting from the budget reconciliation legislation. Part of these savings is a result of an estimated $445 million to be achieved from the 0/92 program. All of these savings are, of course, tentative. We will not know the actual results for some time to come.

In addition to savings achieved because of the reconciliation legislation, the budget also includes an additional $2.5 billion in savings as a result of improvements in supply and demand conditions. Part of these savings are represented by $1.4 billion in receipts to the CCC from sales of soybeans. Savings resulting from changing supply and demand conditions, such as soybean sales, were not included in the reconciliation process, since it was agreed that only legislated changes to programs would be scored as a savings. These savings, however, are included in the President's budget because that budget contains the most recent estimate for CCC programs, taking into account changes in legislation, as well as changes in market conditions.

MARKETING LOANS

Senator GRASSLEY. The next question is in regard to the statement that your budget will continue to move toward a more market oriented farm economy. Can you tell me what further considerations you are going to be giving, then, to the marketing loan for soybeans? You have always opposed that in the past.

Secretary LYNG. Yes; you and I have discussed this, Senator. The 1985 farm bill gives the Secretary of Agriculture the authority to consult a marketing loan on soybeans, on corn and other food things and on wheat.

I have said, from the very beginning, since I became Secretary, as a matter of fact, in my confirmation hearing, that it was not my intention to install a marketing loan on soybeans, corn, or on wheat. I have not changed my views on that. The marketing loan on soybeans today would have very little value. But to announce one, it seems to me, could have the effect of reducing the price of soybeans because I wonder if the market would understand that. No marketing loan would come into play, certainly, within the next calendar year or the next fiscal year or probably in the next 2 years. So that the disadvantages from one could be severe and there could be no benefit.

Senator GRASSLEY. Well, I think my position and that of most people I know in the upper Midwest, it remains the same on that. We would like to have you consider it. I want to go on to another question, because we could debate that for a long period of time. You mentioned the Agricultural Credit Act of 1987, which provides financial assistance under the farm credit system.

FINANCIAL ASSISTANCE BOARD

I don't want to get too far off the subject, because this is on the budget, but as a member of the Financial Assistance Board, along with the Secretary of the Treasury, can you tell me how soon the farmer representative will be appointed and serving with you?

Secretary LYNG. The farmer representative of that Board is a presidential appointment and requires confirmation by the Senate. It is my understanding that the White House is accelerating the procedure to try to get someone named as soon as possible. But, security checks would have to be done before the President could submit a nomination.

Senator GRASSLEY. Do you think that will be within a week or two?

Secretary LYNG. No, sir; I have never seen the procedure operate that quickly. It may take many months.

Senator GRASSLEY. OK. Then we are really in serious trouble. We had heard that this process really isn't moving on a fast track. Could I ask you to use your influence to get that done so we can get that farmer representative on that board very quickly?

Secretary LYNG. I have done all that I can, really, but I simply can't change that security clearance procedure.

Senator GRASSLEY. Then I think that I need to remind myself and my staff that we need to see what we can do to speed that up. I want to have my staff give you a document that just came to my attention on a farm credit matter. You don't have to study this right now; it is just so you will know what I am talking about. As a member of the Financial Assistance Board, I give this to you, because you will have some influence over the lending policies of the Farm Credit System, and this document very much disturbs me.

The copy you have, if this is a policy of the Farm Credit System, it represents a policy of browbeating and strong-arming farm borrowers and those who are attempting to reach agreement with the Farm Credit System, and it very definitely circumvents congressional intent.

Basically, this is asking farmers who are negotiating out of Omaha to sign off any of their farmers rights that we legislated in the Farm Credit Act. If they sign that, they are saying that none of those rights are going to apply. I think that that is really circumventing our act. Most of the work of the members on this committee and the Agriculture Committee, you know, was more toward borrower rights than a lot of the other things in that bill. The bailout was secondary.

I would like to have you look into that as a member of this board and see if, hopefully, you will agree with me, and hopefully, you will put a stop to this sort of effort to get farmers to sign away their rights.

[The information follows:]

WAIVER OF RIGHTS UNDER THE AGRICULTURAL CREDIT ACT OF 1987

I/We and , understand that Section 102 (Sections 4.14A, and 4.14B) and Section 106 (Section 4.14) of the Agricultural Credit Act of 1987 (attached hereto as Exhibit "A" and incorporated herein by reference) confer on me/us specific rights concerning the restructuring of our distressed loan, including rights to certain notices, meetings, review by a Credit Review Committee and stock retention. I/We further acknowledge receipt of a copy of the DISTRESSED LOAN RESTRUCTURING POLICY.

I/We hereby voluntarily waive all such rights afforded by said Act and Policy and hereby consent to:

-entering into and effectuating a previously negotiated restructure agreement

I/We further understand that in consideration of and reliance on the above waiver, Lender will proceed with the above described action.

Dated this ______ day of ________________, 19__.

____

____

STATE OF IOWA, COUNTY OF _______________, SS:

On this _____ day of ________________, 19__, before me, a Notary Public, personally appeared and to me known to be the person(s) named in and who executed the foregoing instrument and acknowledged that they executed the same as their voluntary act and deed.

____
Notary Public in and for
said County and State

My commission expires:_______________

Attachment "A"

Attachment to the contract between The Federal Land Bank of Omaha as Sellers and [illegible] and husband and wife, as Buyers dated the ____ day of ______________, 1988.

22. HOMESTEAD EXEMPTION WAIVER.

Each of the undersigned Buyers hereby relinquishes all rights of dower, homestead and distributive share in and to any real estate property which is described in mortgages, contracts of sale or other security instruments referred to above and waive all rights of exemption as to any said property.

WE, UNDERSTAND THAT HOMESTEAD PROPERTY IS IN MANY CASES PROTECTED FROM THE CLAIMS OF CREDITORS AND EXEMPT FROM JUDICIAL SALE; AND THAT BY SIGNING THIS CONTRACT, WE VOLUNTARILY GIVE UP ANY RIGHT TO THIS PROTECTION FOR THIS PROPERTY WITH RESPECT TO CLAIMS BASED UPON THIS CONTRACT.

Date: __________________ ________________________
[illegible]

Date: __________________ ________________________
[illegible]

23. ANNUAL FINANCIAL INFORMATION.

Buyers shall provide Sellers with a certified balance sheet and income statement in a form acceptable to Lender, on January 1, 1989 and annually thereafter until the contract is paid in full.

24. INSURANCE REQUIREMENTS.

Insure, and keep insured, against fire or casualty, in a minimum amount of [illegible], all buildings or improvements now on, or subsequently placed on, the secured property. The policy shall name Seller and Buyer as coinsured, as their interests may appear, and shall contain a loss payee clause in favor of Seller. Buyer shall direct the insurance carrier(s) to notify Seller at least 10 days in advance of the termination or expiration of the policy. On or before the effective date of this Contract, Buyer shall promptly provide Seller with proof of performance of this provision, and provide Seller with such proof during the term of this Contract as Seller may require.

Senator GRASSLEY. Mr. Chairman, I don't know how much time I had. I know I have taken a lot of time. I have some more questions, but if it is your practice to only give us so much time then move on to my colleagues, and I will wait for a second turn.

Secretary LYNG. I will be glad to look into this and provide something for the record.

Senator BURDICK. Very fine.

[The information follows:]

The Farm Credit Administration (FCA) continues to be the Federal Regulator of the Farm Credit System, including the Federal Land Bank of Omaha. It is my understanding that the FCA has already taken action to look into the question of the waiver of borrowers' rights granted by the Agricultural Credit Act of 1987.

The Farm Credit Assistance Board (the Board) has received a request for certification of eligibility to issue preferred stock from the Federal Land Bank of Omaha. I can assure you the Board will look into the matter that you raised in its review of the Omaha request.

FMHA LOAN PROGRAM

Senator BURDICK. Senator Bumpers.

Senator BUMPERS. Thank you, Mr. Chairman. Mr. Secretary, I can't tell from your testimony here how much money is in direct loans. There is $3.5 billion in guaranteed loans, is that correct, in the Farmers Home Administration?

Secretary LYNG. Yes; that is right.

Senator BUMPERS. Is there $500 million in direct loans?

Secretary LYNG. There is $4 billion, of which $3.5 billion is guaranteed loans and $500 million is direct loans.

Senator BUMPERS. How does that compare with the loans made in 1987? Mr. Secretary, all I am trying to establish here is the adequacy of the amount.

Mr. DEWHURST. The split was about 50/50 in 1987, Senator. The total was about $2.5 billion, of which about $1.2 billion was guaranteed, and about $1.3 billion was direct.

Senator BUMPERS. What is the criteria for a direct loan?

Mr. DEWHURST. Essentially, that the farmer cannot get credit elsewhere, that he needs Farmers Home Administration help to plant his crop and get a production loan.

Senator BUMPERS. Did you use all your $3.4 billion, whatever it was, in 1987? Was that all taken?

Secretary LYNG. I don't think we used quite all of either one. We would be glad to submit that for the record, Senator. We did not run out of credit during the past fiscal year.

[The information follows:]

For fiscal year 1987, approximately $3.6 billion was available for farm operating loans. The amount obligated during the year was $1.3 billion for direct and $1.2 billion for guarantees for a total of slightly over $2.5 billion.

Senator BUMPERS. Do you envision credit being a little more available to farmers this year from private sources, private lenders?

Secretary LYNG. I think it is a little bit more available, Senator, but I also think, farmers have used the very high net cash farm income that we have had last year. You know, we set a record last year with $57 billion of net cash farm income, and it was over $50 billion in the preceding year. It is encouraging to note that farmers have reduced their debts and are borrowing less.

REDUCTION OF FARM DEBT

Senator BUMPERS. How much have they reduced their debt, Mr. Secretary?

Secretary LYNG. As I recall, they have reduced their debt something like $50 or $60 billion over the 2-year period.

Senator BUMPERS. Over the 2-year period? That is from all sources, private, federal, and banks?

Secretary LYNG. Yes, from all sources.

Senator BUMPERS. Everybody?

Secretary LYNG. That is right.

Senator BUMPERS. That is a reduction of $50 billion from what amount? What was the total farm debt?

Secretary LYNG. As I recall, it is a 26-percent reduction.

Senator BUMPERS. A 26-percent reduction?

Secretary LYNG. Yes.

Senator BUMPERS. So the total farm debt was well over $200 billion, $210, $212 billion?

Secretary LYNG. I think that those figures are approximately correct, but I could provide the numbers for the record.

Senator BUMPERS. Yes, of course.

[The information follows:]

USDA recently revised its methods for calculating total farm debt. The new methods exclude CCC loans for price support purposes, but include CCC loans for storage and drying facilities. Numbers are reported both including and excluding household debt, primarily for dwellings. The revised numbers for total farm debt since 1982 are as follows:

TOTAL FARM DEBT, 1982-87

	Excluding household debt	Including household debt
1982	$189,500,000,000	$203,100,000,000
1983	192,700,000,000	206,500,000,000
1984	190,800,000,000	204,400,000,000
1985	175,200,000,000	188,000,000,000
1986	155,000,000,000	166,800,000,000
1987 (estimate)	140,700,000,000	151,500,000,000

As indicated by these figures, total farm debt (including household debt) declined from $204.4 billion in 1984 to $151.5 billion in 1987. This is a reduction of $52.9 billion or 25.9 percent during that period.

Senator BUMPERS. I just want to be sure. Our farmers, at least the farmers in my state, are at least hopeful, now, whereas a year ago they were in total despair. We had the best yield of cotton we have ever had by far and the best price we have had in years. And rice is beginning to come back, thanks to the marketing loan. But the farmers are not out of the woods by a long shot. They are still heavily in debt, and I just want to make sure that there is a sufficient amount of money in this program. Frankly, $4 billion ought to be enough, but we will probably know more about that very shortly, within the next 60 days, as our phone begins to ring about who is out of money and who is not under the fiscal year 1988 budget.

But this is the 1989 budget you are submitting to us which takes me to my question for this year. How much is in this year's budget for direct loans?

Mr. Dewhurst. In this year's budget for operating loans, there is about $3.1 billion, Senator. Of that amount, about $2.1 billion is in guarantees, and roughly $900 million is in direct loans.

Senator Bumpers. While I am at it, is there money in this year's budget for what are called limited resource loans? If so, how much?

Mr. Dewhurst. It is not budgeted specifically, but if the farmer can show that he has a need for subsidized credit, he can get a limited resource loan. The majority of our direct operating loans are being made on a so-called limited resource basis, which means the interest rate is reduced down from what the farmer would ordinarily pay to approximately 6 percent. We don't budget that ahead of time in the sense of saying so much would be for a limited resource loan.

WATER AND WASTE GRANTS

Senator Bumpers. Second, Mr. Secretary, one of the things that I have been greatly concerned with ever since I have been in the Senate, and certainly, ever since I have been on this committee, is the Rural Water and Waste Treatment Grants Program. When I first came on this committee, or certainly about the time Ronald Reagan was elected President, this program was appropriated well over $300 million a year.

I happen to think that it is the greatest program going. I think it is a real tragedy that this program has been cut to the point that it is almost meaningless. For example, in your 1989 request, you have asked for $75 million for this program. Now, bear in mind that it has not been very long since this was a $300 million plus program. And for 1989, you are asking $75 million, and that is a $34.5 million cut from just 1988.

We provided $109 million this year. I might say the reason we got that is because I got it put in there. You tried to cut the program significantly last year. But can somebody on the panel tell me how many applications you have pending around the country for funds and the total amount of those applications?

Mr. Myers. We will have to submit that for the record, Senator, as far as the number of applications pending.

Senator Bumpers. The funding request is in the billions, isn't it?

Mr. Myers. I don't know. Do you know, Mr. Dewhurst?

Mr. Dewhurst. I think there are about 1,500 applications. I don't know the total dollar amount.

Senator Bumpers. I think I have got that many in Arkansas. You say there are 1,500 applications nationwide for both rural water and waste treatment applications in rural communities?

Mr. Dewhurst. Yes, sir.

Senator Bumpers. Seriously, I think we have over 150 applications pending in my state. I can't believe 1,500 would be a correct figure, but I may be wrong.

Secretary Lyng. We will be happy to submit that for the record, Senator.

[The information follows:]

FmHA has on hand a nationwide total of 1,665 applications for water and waste assistance, with a total dollar request of $995 million (for both loans and grants). While these totals include projects eligible for assistance, not all of the projects may be ready for funding in fiscal year 1988. Within the national totals, the state of Arkansas represents 156 applications with a total value of $111 million.

Senator Bumpers. If you would be kind enough, send a copy of that directly to my office, will you please?

Secretary Lyng. I will be happy to do that, Senator Bumpers.

RULES ON PESTICIDES AND HERBICIDES

Senator Bumpers. Mr. Secretary, the thing that bothers my farmers right now, the thing they are most apprehensive about, are the new EPA rules dealing with herbicides and pesticides and endangered species. How closely is the USDA working with EPA on this and how much research is being done to try to overcome the problem? Also, does the USDA have projections about what this is likely to do to commodity production costs, food prices and supply availability, and so on over the long run?

We all know that herbicides and pesticides can potentially cause damage and are causing some, to underground water supplies and something has to be done about it. But if you are a farmer out there and you know that your yield is going to go to nothing if you are prohibited from using any of these herbicides and pesticides, you have quite a different attitude about it. Just comment on that generally, if you would, Mr. Secretary.

Secretary Lyng. We are very concerned about it, Senator, and you are properly concerned too. It seems to me, it is appropriate that we discuss it.

The research that we do on herbicides and pesticides is multiple. We are doing this research at land grant universities throughout the nation; we are doing this research in our own Agricultural Research Service. We are working as closely as we can with the Environmental Protection Agency. We actually have working groups of people from our education and research areas working and giving as much guidance as we can to the Environmental Protection Agency. We have a good working relationship with them.

There is a massive problem involved here. Part of it is scientific, and part of it is just a general public concern about the safety of water and the safety of air and the safety of foods and the safety of using agrichemicals. I think we have accomplished an awful lot in this world and in this nation in the years since I started with the California State Department of Agriculture in 1967.

I think that the agricultural contamination is far less than it was at that time. We have improved the situation, clearly. We have not solved all of the problems, nor have we come very close to satisfying the concerns of many people, which I think need to be satisfied. People need to know that the food, the water they drink and the air they breathe is safe. And we need to do more to make sure that is true and then establish that fact.

Senator BUMPERS. The reckoning hour is coming close. EPA has established rules and implementation has been postponed. I don't know if they are firm and fixed yet, but they have established rules for 1989 for farmland within certain distances of flowing streams and 25 or 26 counties in Arkansas are likely to be affected. It seems to me that, No. 1, the USDA ought to be making some massive commitments to alternatives to current herbicides and pesticides; and No. 2, conducting massive studies of projections of the food supply and commodity production costs for the future. I think it is one of the most serious problems that agriculture in this country faces right now.

Secretary LYNG. We certainly agree with you. We have no quarrel with that at all.

POULTRY INSPECTION

Senator BUMPERS. Finally, Mr. Secretary, I take it that you are familiar with my interest in poultry inspection, and if you are not, I will be happy to enlighten you on that. Are you familiar with the little brouhaha we had in the Conference Committee last year of the House and Senate Agriculture Appropriations Committees about poultry inspection?

Secretary LYNG. I don't think I recall any uproar in the Conference Committee.

Senator BUMPERS. Well the point I want to make is, don't do anything until you check with me. [Laughter.]

We got into a real Donnybrook last year with Congressman Neil Smith on the House side, and I can tell you that the poultry industry is as interested as anybody in putting out a clean product. I know I can say the same thing for the USDA. You want to protect the consumer, and so do they. They have more to lose from it than anybody. I don't mind telling you that while I feel strongly about the safety of their product, I also think they have been put upon unfairly in some instances.

I think that some of the proposals that float around here, from people who don't know anything about the poultry business and know a lot less about the Food Safety Inspection Service; would bankrupt an industry which provides not only a good quality product, but one that people are consuming more and more of all the time, and who would also cause the price of the product, which is easily the most nutritious food for the money of anything on the market today.

So having said that, Mr. Secretary, I just would refer you to a couple of colloquies that were entered in the record last fall about this, which would, indeed, give the Food Inspection Service an opportunity to do the best job they can and the most sensible job they can weighing the interests of everybody involved.

Thank you, Mr. Chairman.

Senator BURDICK. Senator Harkin.

CROP LOANS

Senator HARKIN. Thank you very much, Mr. Chairman. Mr. Secretary, I wanted to follow up on a couple of questions that the distinguished chairman was just covering with you when I walked in the room a little bit late.

I noted that your announcement on January 29 that regular crop loans would not be extended for wheat, feed grains and soybeans, and extended loans from 1985 and 1986 would not be extended, as well. While I can understand that policy with regard to wheat and soybeans, it does not seem to be logical as it regards to feed grains.

During the next year, more than 3 billion bushels of corn loans will be maturing, with no real prospect to the price climbing much above the loan rate. This is going to create massive forfeitures of corn to the CCC and lost income opportunity for farmers who receive 26½ cents a bushel for storing this corn. Now, I have gotten a lot of calls from Iowa recently, from farmers, who have been notified that they will not be permitted to extend their loans, which means they are going to have to forfeit their grain. They take it out of their bins, they take it down to the local elevator, and they lose their 26½ cents.

Now, my question, basically, is: What is going to happen to all this corn, especially when it is going to be forfeited between, let's say, beginning in March, going on through the harvest period? You are going to have all that corn, plus you have got the new corn crop coming in. Where are you going to store all that corn?

First of all, do you have any estimate of how many bushels are going to be forfeited this year, for corn?

Secretary LYNG. Yes; we estimate that, but very carefully, and I will be glad to submit the paper for the record here that shows all of how we have calculated the need to make these changes.

Senator HARKIN. This paper? Is that what you are referring to?

[The information follows:]

SITUATION REGARDING GRAIN STOCKS NEEDED TO MEET MARKET REQUIREMENTS

During the past year, the wheat and feed grain situation has changed dramatically from one of accumulating stocks to one of declining stocks. The level of carryover stocks of all major grains is being drawn down. U.S. exports of grain have staged a significant recovery. This year, the total volume of U.S. agricultural exports will reach 141 million metric tons, up 29 percent from the 110 million metric tons exported 2 years ago.

However, a large share of grain stocks are controlled by the Government. So-called free stocks--those accessible to the market--are declining, and in the absence of actions to access Government-controlled stocks, the export recovery could be choked off.

Congress recognized this situation when they legislated a lowering of the minimum level for farm-owned reserve stocks last December.

In order to avoid disrupting export and domestic sales as grain stocks are reduced, the USDA recently changed policies on extending producer loans for wheat, feed grains and soybeans. Numerous questions have been raised concerning these actions. The following information is to clarify the recent actions and to show the quantities of grain involved.

1. DEFINITION OF TERMS. Various programs are referred to in this informational release. To better understand them, a brief explanation follows:

   A. Producer Loans: (Wheat/Feed Grains)
      a. Regular Loans--1987-crop loans that mature on the last day of the ninth month following the month the loan is made.
      b. Extended Loans--1985- and 1986-crop loans with maturity dates that have been extended an additional 12 or 24 months (1985 crop only)
      c. Farmer-owned Reserve (FOR) Loans--1980 through 1985 crops. These were regular loans that were placed into the FOR for a minimum of 3 years with various extensions offered beyond the original maturity dates.
      d. Special Producer Storage Loans--Available only to maturing FOR contracts and includes 1980- through 1983-crop year loans.

   B. Storage Payment: An annual payment equal to 26.5 cents per bushel for corn, barley, sorghum and wheat (20.0 cents per bushel for oats). Storage payments are paid in advance for grain under extended loans, the farmer-owned reserve and the special producer storage programs.

   C. Temporary Storage: Applies to warehouses and requires that such facilities have a concrete or asphalt floor, rigid self-supporting sidewalls, an acceptable type covering and must have aeration.

   D. Emergency Storage: Includes storage on the ground in piles, on barges, and rail cars. Authorized only when a critical shortage of storage space (commercial) exists in an area.

2. EXTENSION DECISIONS ANNOUNCED 1/29/88

   a. 1987-crop Regular Loans: (Wheat, feed grains and soybeans) Will not be extended and may not enter the FOR.
   b. 1985-and 1986-crop Extended Loans: (Wheat, feed grains and soybeans) Will not be extended further when they mature.

c. Special Producer Storage Loans: (Wheat and feed grains) All crop-year loans maturing after March 1, 1988, will not be extended.

d. Farmer-Owned Reserve Loans: (Wheat, barley and oats) FOR loans for 1983 and prior crop-years maturing after March 1, 1988, will not be extended. Reserve loans for the 1984-crop may be extended at the producer's option for 1 year.

e. Farmer-Owned Reserve Loans: (Corn and sorghum-All crop-years) No decision has been made.

3. WHAT ARE THE CURRENT SUPPLY/DEMAND PROJECTIONS THAT GENERATE THE NEED FOR ADDITIONAL GRAIN SUPPLIES? For wheat, the 1987/88 marketing year utilization is projected at 2,660 million bushels, more than 550 million bushels greater than the 1987 production of 2,105 million bushels. Most of this short-fall will have to come from CCC inventories. By June 1, 1988, CCC inventories will be at minimal levels. USDA analysts are projecting a drawdown in ending wheat stocks this marketing year of 540 million bushels, the largest year-to-year decline of record. A similar situation could occur for the 1988/89 marketing year, possibly reducing ending stocks on June 1, 1989, to below 1.0 billion bushels for the first time since the 1980 crop. Therefore, a need will continue in the wheat complex for stocks to be available to the market place to meet domestic and export use requirements.

For feed grains, total 1987/88 marketing year use is projected to exceed the 1987 production level by at least 10 percent. Ending stocks for the 1987/88 year are expected to decline at least 15 percent. Corn stocks are expected to decline over 750 million bushels. This situation is projected to continue into the 1988/89 marketing year. Although overall supply for feed grains, especially corn, is more burdensome than for wheat, it will be necessary to access CCC inventories and producer loan grain to meet expected demand. Several hundred million bushels will likely be needed.

4. LOANS MATURING ON A MONTHLY BASIS FOR THE NEXT 18 MONTHS?

Month of Maturity (As of 12/31/87)	Wheat 1/	Corn 1/	Sorghum 1/	Barley 1/
	- - -	million	bushels - - -	
February 1988	40.0	--	--	10.0
March	33.0	--	--	7.0
April	76.0	--	12.0	9.0
May	135.0	38.0	34.0	61.0
June	67.0	288.0	25.0	37.0
July	29.0	1,333.0	54.0	13.0
August	15.0	822.0	62.0	8.0
September	33.0	304.0	36.0	10.0
October	9.0	103.0	23.0	7.0
November	5.0	55.0	11.0	5.0
December	6.0	73.0	9.0	6.0
January 1989	2.0	58.0	9.0	9.0
February	--	--	--	--
March	--	--	--	--
April	--	--	--	--
May	--	--	--	--
June	--	--	--	--
July	--	--	--	--
TOTAL	450.0	3,094.0	275.0	182.0

1/ Excludes 1984 and 1985 crop reserve loans that mature during 18-month period. Includes 240 million bushels of 1987-crop wheat loans, 2,355 million bushels of corn, 139 million bushels of sorghum and 84 million bushels of barley.

5. HOW WILL THE MATURING GRAIN LOANS AFFECT THE NORMAL MOVEMENTS OF GRAIN DURING HARVEST? About two-thirds of the wheat loans will mature prior to the 1988-crop harvest, while over 80 percent of the corn loans will mature before harvest. Thus, the quantities of producer loans available to the market as a result of not extending these loans will be significant. However, since the majority of this grain matures and should move into market channels or CCC ownership prior to the harvest of the 1988 crops, normal market movements of grain during harvest should not be significantly interrupted. Similar effects are expected for sorghum and barley.

6. WHY NOT OFFER A SHORT EXTENSION FOR ONLY THE NEWEST CROP LOANS? Experience in prior years shows that when loans are extended with storage payments, producers will tend to store the grain rather than seek marketing opportunities or deliver to CCC.

7. WHERE IS THE GRAIN BEING STORED, AND WHAT ARE THE NUMBER OF BUSHELS IN COMMERCIAL WAREHOUSES COMPARED TO THE NUMBER OF BUSHELS IN FARMER-OWNED FACILITIES, BY CROP YEAR?

Commodity/Crop Year 1/		Farm-stored	Warehouse
		- - - million	bushels - - -
Wheat:			
1980		25.7	8.0
1981		43.4	8.4
1982		62.7	9.5
1983		61.4	46.1
1984		61.5	28.1
1985		134.1	52.4
1986		67.3	13.3
1987		199.4	40.5
	TOTAL	655.5	206.3
Corn:			
1980		3.3	.3
1981		62.0	8.4
1982		91.8	16.5
1983		6.5	1.3
1984		221.8	156.4
1985		785.3	289.8
1986		600.4	120.7
1987		2,010.3	344.4
	TOTAL	3,718.4	937.8
Sorghum:			
1980		.9	.6
1981		6.6	3.9
1982		9.6	4.8
1983		.9	.7
1984		6.1	7.7
1985		24.3	33.6
1986		27.8	49.1
1987		56.8	97.1
	TOTAL	133.0	197.5
Barley:			
1980		2.2	--
1981		11.0	.1
1982		29.8	2.5
1983		3.8	.1
1984		20.8	1.0

1985		45.4	3.1
1986		36.2	1.0
1987		82.6	3.3
	TOTAL	231.8	11.1

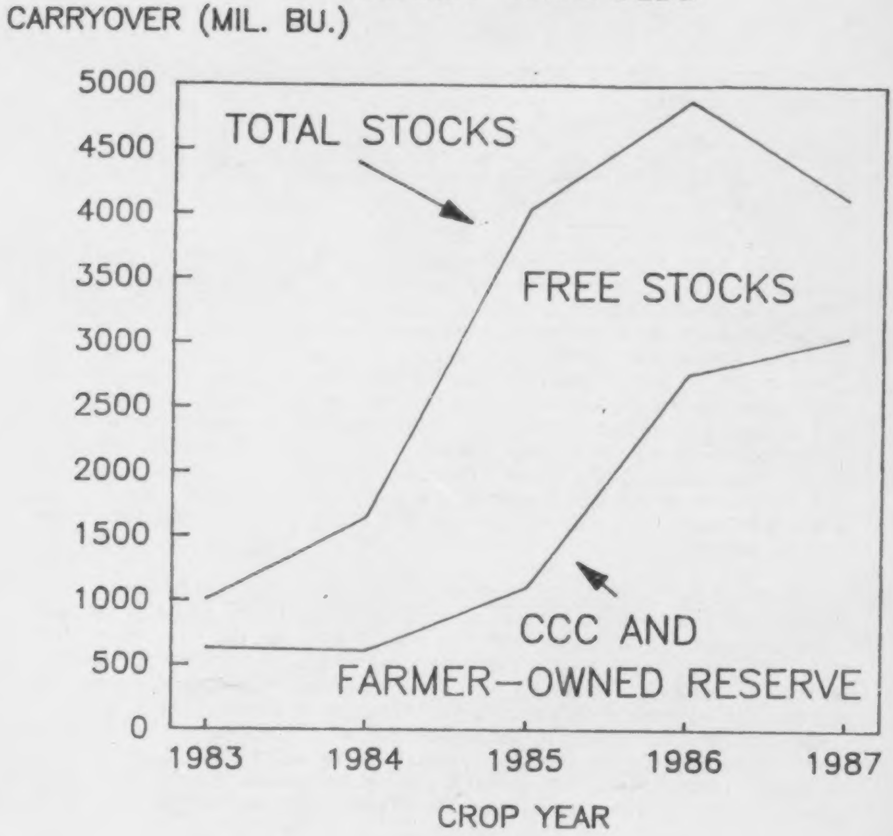
1/ Quantities include grain in all producer loans categories as of 1/31/88.

8. WHAT ARE THE COSTS OF KEEPING THE GRAIN IN FARMER OWNED FACILITIES AS OPPOSED TO COMMERCIAL WAREHOUSES UNTIL THE GRAIN IS ACTUALLY NEEDED FOR EXPORT OR DOMESTIC USE? Annual storage payments to producers under the various programs are 26.5 cents per bushel. However, CCC currently pays commercial warehouses an average of about 35 cents per bushel annually. Commercial storage rates are determined each year through a negotiated offer-rate system. Commercial warehouses receive larger storage payments because commercial storage costs tend to be higher. Commercial warehouses require greater investment in handling, transportation and inspection facilities than do farms; licensing and insurance are required; requisite volumes of grain must be in store at all times; and a sound financial condition must be maintained. Even though a disparity in storage rates exists, it is USDA policy to move grain from CCC into the market as soon as possible. Consequently, if CCC holds the grain for a shorter period than the farmer under extended loans, the accrued storage for CCC grain could be less than for farmstored.

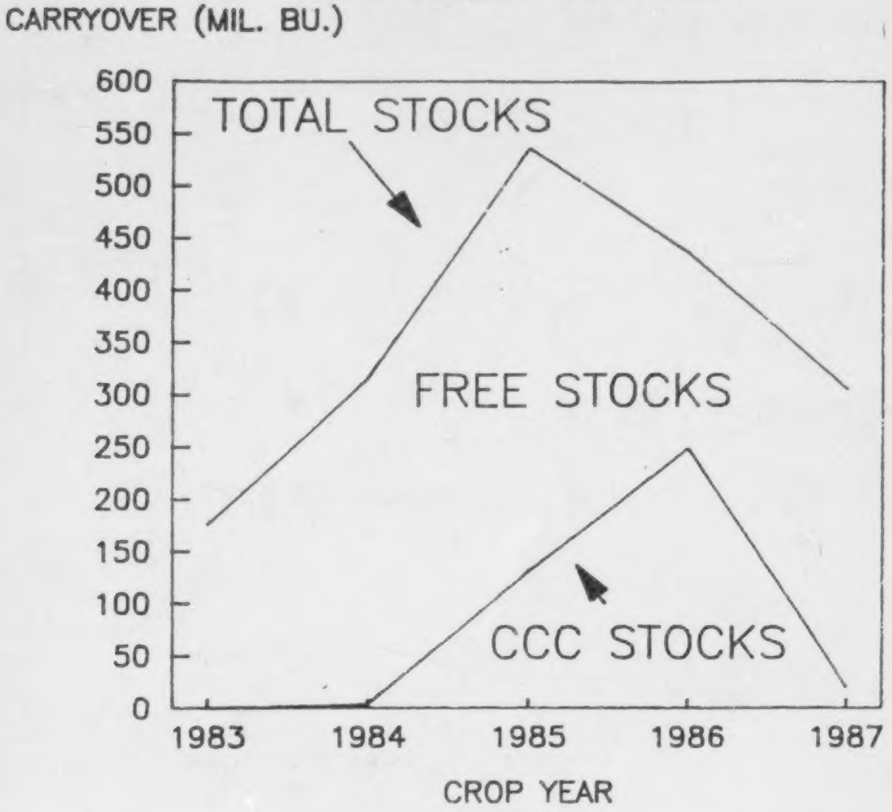
9. HOW MUCH GRAIN IS STILL IN TEMPORARY STORAGE FACILITIES? For farmstored loan grain, temporary storage was authorized only for the 1986 crop and for a maximum of 120 days. This period has passed for all farmstored loan grain; therefore, no grain on the farm presently exists in temporary storage. Temporary storage has been approved for commercial warehouses amounting to about 500 million bushels for 1987-crop grain. However, since the grain in temporary storage is not identified by program function (i.e., CCC owned, warehouse owned or producer loan), it is not possible to determine the quantity of producer loan grain that might be included in such storage facilities.

10. WHY NOT REMOVE GRAIN IN TEMPORARY STORAGE FIRST? Removing grain from temporary storage facilities is a high priority and every effort is being made to empty such facilities. This is being done on a continuing basis, and the USDA announcement on January 29, 1988, to not extend producer loans will not deter this effort.

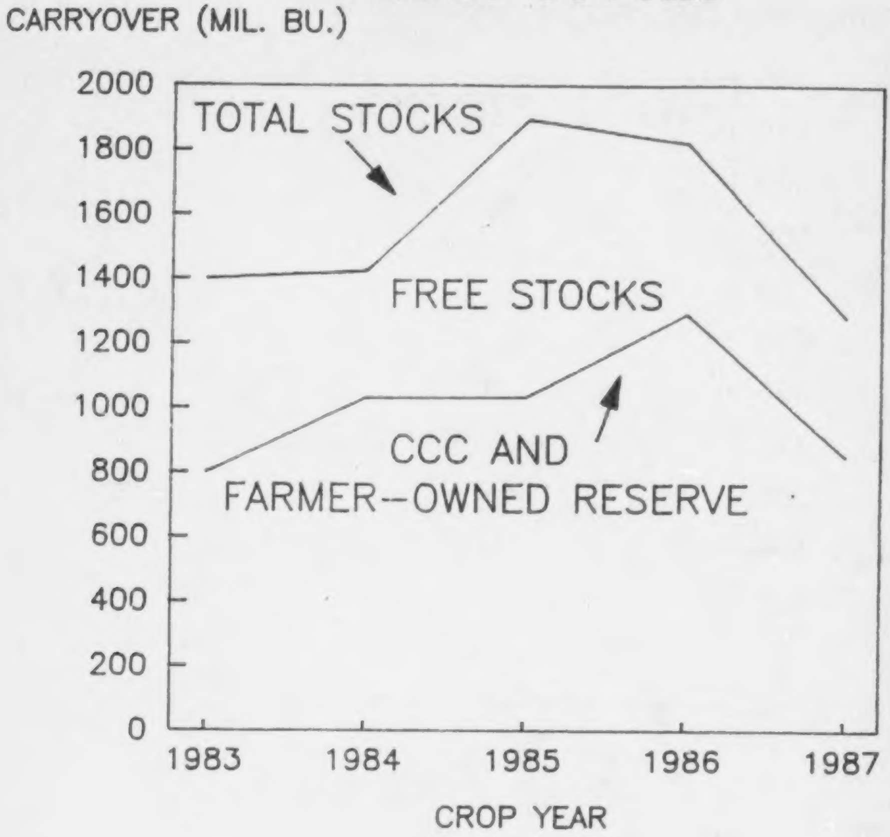
CORN STOCKS


CARRYOVER (MIL. BU.)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
TOTAL STOCKS
FREE STOCKS
CCC AND
FARMER–OWNED RESERVE
1983
1984
1985
1986
1987
CROP YEAR

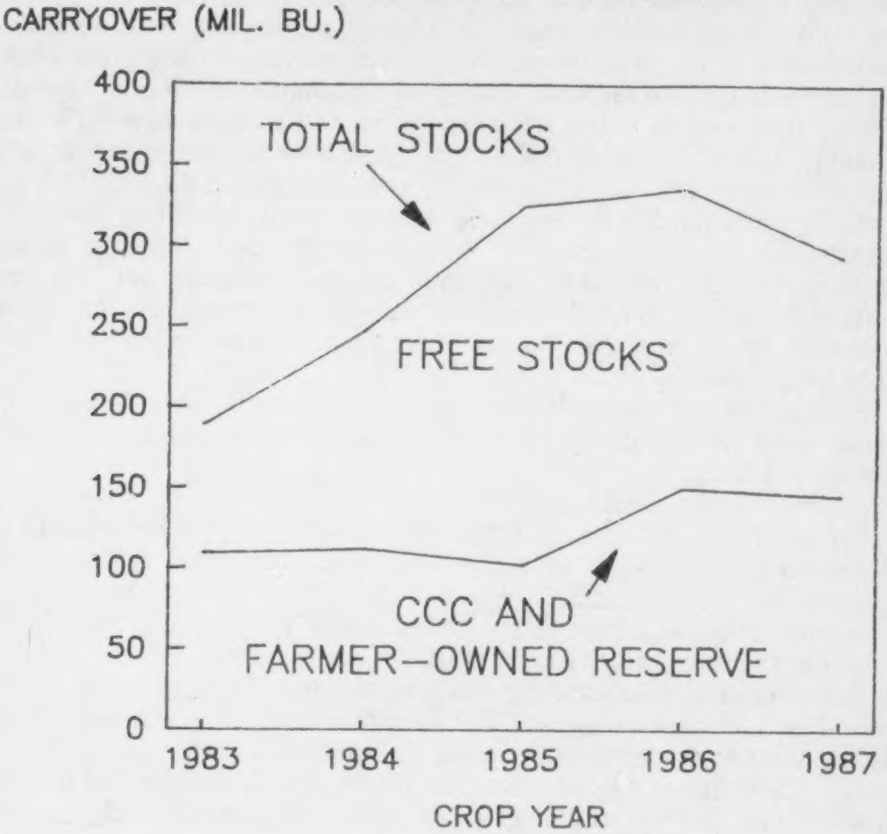
SOYBEAN STOCKS



WHEAT STOCKS



BARLEY STOCKS



Senator HARKIN. OK.

Secretary LYNG. We are not moving any grain out of farmer storage facilities or announcing that there can be no contract renewals unless we think we are going to need that grain in the market, both domestic and export, in the near future. We are not simply moving grain from farmers' storage into terminal storage or to commercial elevator storage just to be doing that. But we must see to it that there is a sufficient quantity, that is outside of the control of the government or the farmers under government loan so that we can keep the exports moving. Our exports this year have been very good, and our carryover will be lower by quite a lot, and as a result of that, we simply don't need as much storage. We have not announced our full corn program yet. We are waiting to get as much information as we can, particularly on some potential export business. We have not made a decision on the 1986 crop corn loans.

Senator HARKIN. But, Mr. Secretary, some farmers in Iowa have already been notified that their loans would not be extended when they are up in March.

Secretary LYNG. Those are older loans.

Senator HARKIN. Those are either last year's or the year before last.

Secretary LYNG. And we believe we need that grain available for market.

Senator HARKIN. I look at the prices in this paper that I have from you that came up earlier on the situation regarding grain stocks needed to meet market requirements. You say to meet expected demand it would be necessary to access CCC inventories and producer loan grain to meet expected demands. You say 700 million bushels will likely be needed, and that is the estimate that I have, which may be 700 to 900 bushels that you are thinking of taking out of that loan. But if the demand is there, the price would be going up, and I don't see any increase in those prices going above the loan rate at all. So where is the demand? Or are we trying to stimulate the demand by dumping all these free stocks out there to drive the price down?

Secretary LYNG. No; we haven't made any efforts to drive down the price of corn. The price of corn has been hovering at loan levels or just slightly above. The minute it goes a bit above the loan level, we are seeing rather substantial redemptions of those loans.

Senator HARKIN. I would think so.

Secretary LYNG. That is about where the market price is. That is a fair world market price now, and at those levels we are seeing, and expect to continue to see, rather substantial export demand.

CORN PRICES

Senator HARKIN. I would think that this seems like too much corn to be taking out, and it appears to me that a lot of this corn will be moved to elevators, stored commercially, where the government is going to pay 35 cents a bushel plus 10 cents in and 10 cents out. A lot of money is going to be taken out of farmers pockets, especially farmers who are storing this grain in their own bins. A lot of these people have their bins paid for.

Some of them don't have their bins paid for. They would be hurting even more. I estimate in the state of Iowa alone, Mr. Secretary, and these are rough guesstimates on my part, that not renewing these loans might cost the state of Iowa somewhere between $75 and $80 million this year in lost income to farmers and to the economy of the state of Iowa. If the price goes up above that loan rate, farmers can redeem those any time they want.

Secretary LYNG. And Senator, they are redeeming the huge quantities. Just in the last few weeks, I think we have had over 200 million bushels redeemed.

I can absolutely promise you that we are not doing what you have suggested. We are not going to cause the farmers of Iowa to lose that amount of money. We think that the farmers of Iowa will want us to keep the grain flowing. I think the farmers in Iowa and everywhere else would agree that our efforts to expand our exports and to reduce our stocks are the things that will give them the opportunity for prosperity in the future. It is the thrust of the 1985 farm bill.

I would defend very vigorously the actions that we have announced, and I will be glad to come up and go over them with you in detail: We are not guilty of the charges you have made that we are irresponsible in the sense of moving this grain out of farmers' storage and putting it into commercial storage and costing the farmers a lot of money. That is absolutely not what we are doing, and we don't intend to do that. We have no motive to do that. We want to keep this grain moving, but we do recognize that there is going to be a sizable reduction in the amount of grain in storage as we get to the end of the crop year just before new crop harvesting. That is what we want.

Senator HARKIN. As I said, I hope you are right, but I don't see that demand there. If the demand is there, prices go up. That is the way I have always been taught, anyway, and if the demand was there and the prices were going up, farmers would go ahead and redeem it. They would market it. I don't see that demand there, unless we are trying to stimulate the demand by keeping the prices low.

Secretary LYNG. Senator, if you compare the prices this year at this time with what they were last year, you will see there is a rather substantial increase in the prices.

Senator HARKIN. That is right.

Secretary LYNG. We have actually a little lower support price, so that we have done very well, in my view, of carrying out the intent of the 1985 farm bill. That is what we are going to continue to do, and I think, the fears that you have expressed on corn are exaggerated or do not exist.

Senator HARKIN. I think you are exaggerating the demand side, Mr. Secretary. If you think I am exaggerating the impact on the state of Iowa and the loss of income to farmers, I think you are exaggerating the demand side of the picture, quite frankly. And I think you are trying to dump a lot of that stuff on the market just to keep that demand out there and to keep it at a low price.

I see no reason why these farmers couldn't extend the loans. If the market price gets up there, they will market the grain; they will sell the grain, if the price is up there. They will do it. But I am concerned that we are stimulating a low price just to keep this stuff moving, and I still believe if you can show me how this grain is leaving that farmer's bins and going right in the export channels, that would be all right. I could live with that. But if that grain is going to be stored commercially for 9 months or 12 months, then it is costing the government more money and it is taking money out of the farmers' pockets. You say that is not going to happen.

Secretary LYNG. That is not going to happen.

Senator HARKIN. I hope not.

EXPORT SITUATION

The other question I had, Mr. Secretary, had to do with our export situation. The agreement between Japan and the United States regarding their import quota on beef, quality beef, expires in March. I have heard that you do not or this administration does not want to renew that with Japan. In fact, we are telling the Japanese that we want free access to their quality beef market without any quota restrictions whatsoever.

Is that the case?

Secretary LYNG. The quotas that the Japanese have on beef, on citrus and have had on a number of other agricultural commodities are a violation of the rules of the General Agreement on Tariff and Trade. Japan and the United States are both contracting parties and have signed the GATT agreement.

Going back well over 20 years, the Japanese persuaded us to permit a quota on beef and citrus. At the time they did that, their plea was that they had a very unfavorable trade balance with the United States and they needed some help to get that trade balance in a better position.

For some years, we have tolerated quotas with the Japanese on 12 categories of food items. We did take them to the GATT, and we won the decision on 10 out of those 12 very similar to the beef and citrus. We had tolerated the beef and citrus thing, as you say, in 1984, and we negotiated an increase in the quotas. At that time, then Ambassador William Brock, who was the U.S. Trade Representative, said that this would be the end; we will not negotiate another quota agreement. It is time for the Japanese to open up their markets and give the Japanese consumers the same opportunity to buy citrus and beef, as U.S. consumers are given to buy Japanese manufactured items, such as electronic items.

We have repeated that continuously for the 4 years that this agreement has been in force. As we now come to the end of March, when the agreement terminates, we have said that there is nothing to talk about. This is the time for them to remove those quotas. The Japanese, of course, are reluctant to do so, but it will be up to us if they fail to do it, to determine whether or not it is an action that we would want to take to the GATT. It seems to me that we certainly would want to consider this action, because the principles of the violation of the GATT agreement are very clear and were established, it seems to me, quite clearly on the 12 categories.

Senator HARKIN. I am familiar with the decision on the 12, but did you just state that their beef quota is in violation of GATT?

Secretary LYNG. Yes; it is in violation of the GATT.

BEEF IMPORTS

Senator HARKIN. Why isn't our beef quota in violation of the GATT?

Secretary LYNG. We got a waiver when we joined the GATT on a number of items.

Senator HARKIN. I was just in Australia and New Zealand a little over a month ago, and they would like to have us do what we want the Japanese to do. They want us to get rid of our beef import quota so they could ship more beef into this country. Do you think we should do that?

Secretary LYNG. I think it is something that could be done, provided the markets all over the world were opened up. The United States is the largest importer of beef in the world and is one of the few places that permit beef in quantity to be imported. The European Community, in contrast, imports almost no beef.

Senator HARKIN. I just find it odd that we are trying to get the Japanese to do what we wouldn't do. I don't know that my cattle farmers, my beef producers, would want our counter cyclical beef import quota to be just wiped out and done away with and flood us with cheap Australian beef and whatever else they might have. Again, I am concerned that the Japanese are going to retaliate against feed grains. They have already said that. Have you seen the article in the Post or the Wall Street Journal where they were going to retaliate and start buying their feed grains some place else? That is obviously important to my state, also. There is no doubt about it.

Secretary LYNG. I don't understand what you favor.

Senator HARKIN. What I favor is sitting down with Japan, as we do with other nations, and fairly and logically negotiating in the best interests of both countries. It may be in the interest of Japan to have some form of a beef quota. It may be in our interest to have some form of a beef quota. I think it is in our interest. I think the counter cyclical beef quota that we have has worked well, and I think we can reach agreements with countries based on those principles of mutual respect, mutual concern and mutual advantage. But to say to Japan, no, we are not going to negotiate, period, I think, leaves us in a very vulnerable position both with regards to retaliation and with regards to our own quota that we have set up and under which we have operated for many, many years.

Secretary LYNG. Senator, in California there is a feed lot that is feeding beef that can be shipped to Japan. Because the quota restricts it and will not permit that beef to come in, those steers are being shipped alive. One hundred thirty-five steers cost $175,000 to fly to Japan.

They then have to be put into quarantine, and it is my understanding that the steers, which would be pretty ordinary animals in the United States, bring $5,000 to $7,000 each in the Japanese market. It seems to me that when we have a country that is so restrictive on movement from the United States and where the potential is for at least a doubling of the amount of beef that for us to tolerate any kind of a quota on beef simply just does not make sense. The Japanese consumer would love to double the amount of beef and that country has a $50 billion favorable trade balance with us.

Senator HARKIN. Now you are picking and choosing, Mr. Secretary. I was just in Korea, too, and they have an embargo on our high quality beef to Korea. There is about, I forget what the figures are in Korea, but it is quite a substantial market in Korea that is closed to the same kind of beef producers you are talking about. Yet we are not doing a thing about that.

Secretary LYNG. That is not true, Senator. We are doing things about it. Ambassador Yeutter has, on many occasions and in recent weeks, made representations to the Koreans. The Koreans are well aware of our views, and I think that again, as in the case of Japan, they have got to do something about those quotas.

Senator HARKIN. And the same way with New Zealand. New Zealand embargos our poultry. Yet we buy a lot of their beef and their lamb, but they embargo our poultry. What are they going to do about New Zealand?

Secretary LYNG. I don't know anything about that.

Senator HARKIN. My point is that I want to get our trade balance down in Japan; you bet I do. I think that they ought to buy more of our beef. But to pick them out and say, No, we aren't going to negotiate with you at all, may turn around and hurt our grain farmers, because there is a delicate balance there. You may be interested in your big feed lot producers in California, Mr. Secretary, but I am also interested in my feed grain producers in Iowa that sell a lot of grain to Japan, too. They have already said that that might be a point of retaliation if, in fact, we proceed on this path. And I am concerned about that.

Secretary LYNG. I don't think the feed grain people in Iowa would want to sell out the beef people, anyway.

Senator HARKIN. No; but I think what they want is fairness. They want fairness and equity, and I think they recognize that farmers in Japan have a right to exist as farmers do everywhere, and that to pick that out and not go after New Zealand or not go after Korea or a few other places, I think, is playing favorites here. I think my feed grain farmers want a balance.

Secretary LYNG. Well, obviously, you and I have a strong philosophical disagreement on this. I think we should demand from the Japanese access to their markets as long as we continue to give them the kind of access to our markets that we do.

Senator HARKIN. But I think we ought to demand it of other countries, also.

Secretary LYNG. I agree with that.

Senator HARKIN. But I don't see you doing it to any other countries.

Secretary LYNG. We are doing it to other countries. I just returned from a trip to six South Eastern Asian countries, where we made that clear over and over and over again.

Senator HARKIN. You can say that, but I see no movement in Korea or anything else in that regard.

Secretary LYNG. This morning I met with members of the European Parliament, talking the same kinds of issues, the hormones and third country meat directives. We are constantly involved. That is a very major part of our activities.

Senator HARKIN. I guess we do have a philosophical disagreement, because I do believe that each country has to devise its own policies to support its own social and economic systems. I visited Japanese farms. Their farmers are doing quite well. They have a system that is set up that maybe we wouldn't have, but it works for them. Yes, we should have access to their markets, but, for example, to tell the Japanese that they can do away with rice farming and we can sell them all the rice they need, I think, is ridiculous.

Senator SASSER. Would the Senator yield for a unanimous consent request?

Senator HARKIN. Yes; I am going to be through in 1 second. I think that is ridiculous. I think we have to understand what these other countries need, and we have to deal with them fairly and equitably so that their farmers prosper and so do ours rather than this dog-eat-dog situation that we have found ourselves in in the last couple of years. So that is our philosophical difference. I yield.

Senator BURDICK. Do you have question?

PREPARED STATEMENT

Senator SASSER. Yes, Mr. Chairman. I ask unanimous consent that my opening statement be included in the record today as if read.

Senator BURDICK. Without objection, so ordered.

[The statement follows:]

STATEMENT OF SENATOR JIM SASSER

Thank you, Mr. Chairman.

We have reached a promising point in the path toward economic recovery in our agricultural communities. It would seem that we have seen the worst. Farm incomes are continuing to increase, and the extensive supply of government-held commodities appears to be falling. As well, the Agricultural Credit Act of 1987 should help to stabilize many farm budgets by easing the pressure of meeting excessive payments. The projected increases in American farm exports also add up to a brighter picture for our farmers.

Needless to say, it is important that the Department of Agriculture continue to promote development in our agricultural community. Although the future of the farm community is much brighter, the U.S. Government will spend over $17 billion on farm programs in the coming year. I know farmers in Tennessee agree with me that we should not accept costly farm programs as the status quo for America. We must strive for farmers to be less dependent on government supports and quotas.

At the same time, where we have seen a significant amount of emphasis placed on the mechanisms of running our farm programs, I believe we must now focus on the infrastructure of farming. By infrastructure, I mean the rural community and natural resources which are the basis of our agricultural communities.

There has been a dramatic decrease in America's rural population. The administration's 1989 budget summary notes that "nonmetropolitan areas lost 632,000 persons to metropolitan areas in 1985 and 1986 * * * with most of these in the 20 to 40 age group which compromises the most productive part of the work force." I would hazard to guess that this figure is low. In the 20 to 40 age group in Tennessee, rural areas lost 59,953 to urban areas between 1975 and 1980.

We must improve efforts directed at rural revitalization. There are several bills before Congress which focus on economic development in rural areas. Rural development is a wise investment, one which I encourage the Department of Agriculture to support fully.

Our rural communities are the backbone of America. Efforts must be made to keep these communities not simply functioning, but attractive for business and young working men and women. The failure of rural America would certainly spell disaster for the remainder of the American economy.

In conjunction with rural development, the Department needs to emphasize improved conservation of natural resources, namely soil and water. These are the single most important elements in farming, but they are often taken for granted.

Water pollution and soil erosion have devastated the countrysides of America for years. Fortunately we are beginning to see programs which address these problems, many of which Secretary Lyng has mentioned today. The Conservation Reserve and Sodbuster provisions contained in the 1985 Farm Act and the recently passed Clean Water Act are proving to be effective measures. However, it is obvious that we need to do much more.

A report by the Environmental Protection Agency released last October noted the "agricultural runoff [was] by far the most commonly reported nonpoint source" of pollution among those states reporting. Nonpoint pollution is a priority problem which needs to be addressed. Improvements in soil retention and monitoring of field and livestock runoff are just two areas in which we can begin. This is a challenge which I would put to you, Mr. Secretary. The loss of valuable natural resources is a problem we cannot afford to give inadequate attention or effort.

I believe the Department of Agriculture has made some progress in the areas of rural development and resource conservation. It is now in a position to take strong action to promote rural revitalization and to improve the protection of our natural resources. I hope that USDA and Congress can work effectively to see that these goals are realized.

Thank you, Mr. Chairman. I do have some questions for the Secretary.

GENEVA TALKS

Senator BURDICK. Senator Cochran.

Senator COCHRAN. Thank you, Mr. Chairman. Mr. Secretary, I welcome you to the hearing, and I apologize for not being here when you first arrived. As the ranking member of this subcommittee, I wanted to be sure you were treated fairly, but I understand that the committee has been balanced in terms of opportunity for Republicans and Democrats alike to ask questions and make statements. I am told by members of my staff that you have handled the questions very, very well, indeed.

I am glad to see, first of all, that you are going to Geneva to personally discuss with friends from around the world ways to reduce the unfair barriers that exist to our trade in the international marketplace and ways to ensure that we have a better opportunity than we do now to compete and to sell what we produce in the international marketplace.

The reason I wasn't here at the beginning of the hearing is that I was at a press conference called by several of us who are involved in a rural development task force. We are trying to attract the attention of the Republican and Democratic candidates for President to the special needs in rural America.

One of the points that I made at that news conference was that we should emphasize, rather than ignore, agriculture as one of the essential economic development factors. When agriculture is healthy, we tend to have more and better jobs in the rural South, at least, than when agriculture is not healthy.

We have Super Tuesday coming up; we have several candidates running around in the Sunbelt talking about their campaigns. We need to encourage them to focus on developing a strategy for economic progress in rural America.

I think that your trip to Geneva and your working with our Trade Representative and others to use our diplomatic muscle and our other resources that can be brought to bear in this area to help us get a bigger share of the international market will be a boost to our economic progress.

In that connection, I also want to congratulate you for including in the budget for the first time that I can remember funds for some of our rural development programs, such as water and sewer system loan and grant funds. Funds for the business and industrial development loan program and the community facilities program, which are administered by the Farmers Home Administration, are also included in your budget this year.

I think this indicates a very important awareness and sensitivity to some of the problems in our less well developed rural areas. So I applaud you for that and assure you that we will be looking carefully at those proposals. I am hopeful that the committee will work with the administration to come up with adequate funding levels for these important rural development initiatives and programs.

Do you have any comments? Let me just ask you whether or not you feel confident that progress can be made in Geneva in these talks that are coming up? Do you have anything you can tell the committee about any specific proposals that you intend to make or a plan that you have to try to help deal with some of these international trade problems?

Secretary LYNG. Senator Cochran, it is very difficult to capsulize something that is as complex as the GATT negotiations under the Uruguay Round. We have made a lot of progress. These are the first trade negotiations under the GATT in 30 years of GATT existence. These are the first ones where agriculture really is the main player.

There are 13 other committees that are negotiating on other issues than the GATT, but agriculture is clearly on center stage.

We have accomplished more in agriculture during the first year of this negotiation than we did in the first 4 years of negotiating the Tokyo Round. We tabled last July the United States' proposal. I think you are familiar with that. We have seen that since that time, proposals from the Carons group. That is the group that met in Carons, Australia, 13 nations coming along very much in line with our proposal; Canada has come along. We have got statements now on file from virtually every major participating country in the negotiations.

We have some differences in the proposal with Japan and the European Community, some rather substantial differences in some ways. But I detect that even in those more difficult countries, there is a better understanding than we have ever had of the need for some sort of global rules in the international movement of agriculture products.

So I am optimistic; I think that we will get some things done this year. I think we will get a whole lot done before the 4-year term of this negotiation expires.

CONSERVATION RESERVE

Senator COCHRAN. Thank you, Mr. Secretary. My other question has to do with conservation plans. I understand that USDA has set as its goal having 65 percent of the highly erodible land in the country under a conservation plan by the end of 1988 and that the balance of that which is classified as highly erodible would be under a conservation plan by the end of 1989.

I am being told that it is unlikely that that goal will be reached and that consideration ought to be given to delaying for maybe 2 years the compliance deadline as well as the final implementation of the program. That probably would require congressional action. I assume it would.

What is your observation about the program's progress? Do we need to appropriate additional funds to manage this program? Do you have enough staff to deal with the workload? Is your budget request sufficient to meet the goals that you have outlined for this program?

Secretary LYNG. Yes to each of those questions. I talked to the Chief of the Soil Conservation Service just a week ago about this. He will be testifying before this subcommittee during the hearings on the budget. He assured me last week that they are fully capable of, with the resources that they have been given, getting these plans filed and developed and completed in the period of time that is required. I think the plans have to be approved by 1990.

Now, that does not mean that they need to be totally implemented. I am personally a little bit uneasy about whether or not the implementation can take place quite as quickly as the 1985 farm bill called for. As I recall, it was implementation by 1992?

Mr. MYERS. 1995.

Secretary LYNG. 1995. Some of these are very extensive and expensive things, and it may well be that as we move along, we will have to see some modifications made in that. But I think there is plenty of time to take a look at that. I don't think we need to do anything now. I think the important thing from our point of view is the implementation of this very worthwhile plan that was developed in the 1985 farm bill. It seems to me, we ought to stay with the idea of getting these plans developed and we do have the resources to help the farmers accomplish that.

CONSERVATION RESERVE IN THE DELTA REGION

Senator COCHRAN. I am developing a proposal that I will soon ask the Department to consider regarding the tree-planting objective of the Conservation Reserve Program which was included in the 1985 farm bill. It is to try to get attention to the delta region of the country. Not just the Mississippi Delta, now; I am talking about the entire river valley, including some six states, where some lands aren't classified as highly erodible, but they are marginal in terms of their productivity.

They were put into cultivation when soybean prices were high. Now they are lands that ought not to be farmed. From an economic standpoint, you cannot make money growing anything on that land. I don't care how good a farmer you are, you just can't. I am not talking about good cotton land or land that is now in catfish production in our state, but I am talking about land that really was cultivated to grow $9 soybeans and soybeans are $6.50.

So what do we do? I am suggesting that we look at the Conservation Reserve as an umbrella program where we can encourage, through financial incentives, the use of that land for some other purpose that would be productive; that would make money.

We have some delta land right now in Mississippi that is actually producing more income, because it was turned into a hunting facility where you have these doctors from all over the South coming out there to hunt. That is a better way to use that land right now from an economic standpoint than trying to grow soybeans on it.

I am hoping you will take a look at my proposal. We have been working with some members of the Department, particularly with Peter Myers, who has been to the delta from time to time and has talked with folks down there. We are trying to figure out a way to encourage, not mandate, but encourage the use of lands in the Conservation Reserve to protect our resources but also to help landowners earn some money from those lands and not just go broke.

What is your reaction to the possibility of developing a program like that? I am not sure how well briefed you are on the specifics. I haven't given you any specifics in my question, but what is your reaction, generally, to that kind of proposal?

Secretary LYNG. Well, as I understand it, you would be expanding the eligibility of land to go under the long-term conservation program, because this land that you are referring to is not eligible today because it is not highly erodible.

Senator COCHRAN. It is not highly erodible.

Secretary LYNG. It was someone else's highly erodible land up north, up river at one time. [Laughter.]

Senator COCHRAN. That is exactly right.

Secretary LYNG. It came out of Iowa. [Laughter.]

Senator COCHRAN. That is right. It all came out of Iowa and Michigan.

Senator GRASSLEY. North Dakota.

Senator COCHRAN. They probably let the worst land slip down.

Secretary LYNG. I really should let Peter Myers, my deputy, talk about that, because he farms down there. Do you farm that kind of land?

Mr. MYERS. We are making a good attempt at farming. Senator, this is something we need to look at. The problem is, we don't have all the erodible land we need into the Reserve at this point in some parts of the country. I think it is an area that should be explored as we look at the 1990 farm bill, what type of set-aside do we have? Should we look at this whole concept of making the Conservation Reserve, the set-aside and include the type of land that you are talking about, the type of land Senator Kasten was talking about that leaches herbicides through readily. This whole thing should be looked at.

We do, in FmHA, in some of our foreclosure options, allow people to have an easement, and you are familiar with this. That would fit certain categories of people in this type of land, but it wouldn't fit all of the land you are talking about. So it is something that we should explore.

ACREAGE IN TREES

Senator COCHRAN. One observation is that the 1985 farm bill requires one-eighth or 12.5 percent of the 45-million-acre CRP to be planted to trees. To date, after five signup periods, only about 5 percent of the enrolled acres have been planted to trees.

I am hoping that in some areas where it is appropriate we can try to get some of these landowners into tree farming rather than losing money every year growing something that is not making a profit.

Mr. MYERS. That would make sense, and of course, we have expanded eligibility for land not qualified by erodibility to go into trees. We are saying if one-third of a field is highly erodible, we will take the whole field if they will put it in trees.

We have already made that change, but it has to be still classified as erodible land.

Senator COCHRAN. Well, I encourage you to continue to try to live up to that provision in the law and not ignore it. I know you realize it is there, and you are trying to do things to encourage compliance. I am just raising it, because I think it is something that was put in the law for a good reason. Again, we are not trying to mandate land use but provide some incentives to help improve the economically feasible use of the land.

Mr. MYERS. We will implement that to the best of our ability. We are very much aware of that provision, and we are looking at any avenue we can use to get more of this Conservation Reserve land in trees.

FEDERAL CROP INSURANCE

Senator COCHRAN. I have just a couple of other items, and then I am going to yield to my good friend from Iowa and whoever else is in line to be recognized.

I am glad to receive your assurances that you are responding to our request for a report on monitoring the Federal Crop Insurance Program and on loss adjustment oversight and procedure. This action is being taken in compliance with language we put in the conference report on the continuing resolution.

I know we have a new manager of the Federal Crop Insurance Corporation, and rather than take up the time of the committee, I would just ask unanimous consent, Mr. Chairman, that a copy of a letter to me from Deputy Secretary Peter Myers be put in the record, along with my statement on the subject of the Federal Crop Insurance Corporation.

Senator BURDICK. Without objection, so ordered.

[The information follows:]

FEDERAL CROP INSURANCE CORPORATION

Mr. Secretary, although I do not plan to ask a specific question, I do want to indicate my continuing concern regarding the crop insurance program.

As indicated in the budget summary statement, crop insurance is the government's primary source of farmer disaster assistance. Farmers need this protection, and returning the agency to a favorable loss ratio performance is the best way to help ensure its future. Budget considerations today make it imperative that an effective but efficient program be offered to farmers.

Loss ratios, as are being experienced today, sometimes force abrupt actions which cause unintended economic hardships on farmers. I am sure that ratio in 1986 of 1.62 in indemnities for every $1 premiums, the ratio in 1987 of 1.30 in indemnities for every $1 in premiums, and the projected ratio for 1988 of 1.52 in indemnities for every $1 in premiums contributed to the agency's decision regarding the drastic changes in the insurance coverage originally announced this year for the southern soybean crop. Specifically, for Mississippi the changes, as originally proposed, would have reduced coverage for over 75 percent of the soybean farmers by almost 50 percent in 1 year.

Fortunately, once the agency carefully reviewed the scope of the impact of the planned changes, they realized too many farmers could be adversely impacted without just cause. And, Mr. Secretary, this brings me to the key point: although the crop insurance program must be actuarially sound, farmers should not fear that it is subject to wild swings in coverage. On the other hand, fraud and abuse should not be tolerated. Farmers who have spoken to me about the program all agree enforcement should be—must be—improved before crop insurance works effectively as a disaster program.

To this end, I am glad to receive the Department's assurances that the congressional request for a report on enforcement will be forthcoming about midyear (see attached letter).

LETTER FROM PETER C. MYERS

FEBRUARY 9, 1988.

Hon. THAD COCHRAN,
U.S. Senate,
Washington, DC.

DEAR SENATOR COCHRAN: As you know, the Federal Crop Insurance Corporation (FCIC) suspended actions related to permanent personnel and facilities commitments associated with its previously announced field service restructuring pending the completion of congressional action on budgetary and appropriations measures for fiscal year 1988.

We are mindful of the concerns of the Appropriations Committee and your colleagues on the Committee on Agriculture in both Houses of the Congress relative to the crop insurance program. We have noted the language in the Conference Report on the Rural Development, Agriculture, and Related Agencies Appropriations Act for fiscal year 1988 as contained in Public Law 100-202 (the "Continuing Resolution") expressing those concerns, and the language in the Omnibus Budget Reconciliaiton Act of 1987 (Public Law 100-203) further emphasizing the insistence of the Congress on greater oversight of reinsured company operations.

Consistent with the language in the Conference Report on the Continuing Resolution, we will provide the appropriate committees of the Congress with a full report on FCIC's progress and activities in loss adjustment oversight and procedure by June 30, 1988. This timing should permit the FCIC to complete the action on the restructuring which is critical to a comprehensive oversight and administrative capability for federally underwritten insurance service, and to draw some conclusions from the full implementation of procedural and oversight initiatives relating to reinsured company activities begun in 1987.

We are confident that the directions now being taken will be responsive to the concerns expressed by the Congress and are looking forward to continuing to work with you to make a truly effective disaster risk management insurance program available to America's agricultural producers.

Sincerely,

PETER C. MYERS, *Deputy Secretary*.

Senator COCHRAN. Mr. Chairman, I also have some questions on other topics, but I think I will just ask that they be submitted to the Secretary and answers be supplied for the record. One relates to the Sugar Re-export Program and the other to the Farm Credit Assistance Board. I ask that those be submitted for the record.

Senator BURDICK. Without objection, so ordered.

Senator COCHRAN. Mr. Chairman, I also have a copy of a statement and questions from Senator Pete Domenici which I ask unanimous consent be printed in the record and submitted to the Secretary for response.

Senator BURDICK. Without objection, so ordered.

Senator COCHRAN. Thank you, Mr. Chairman.

Senator BURDICK. Senator Grassley.

RURAL DEVELOPMENT

Senator GRASSLEY. Thank you, Mr. Chairman. First of all, Mr. Chairman, I think I would ask the Secretary to consider, as you have already asked him to do, to honor your request to take a second look at extending some of those Farmers Home Reserve loans, because I think that probably, there is too quick of an adjustment on that.

My second point would be to second, also, what Senator Cochran brought up about the rural development initiatives, and I guess if you could just give me a little bit of an update on those initiatives, I would appreciate it.

Secretary LYNG. Yes; I think that unlike budgets that we have submitted for a number of years, where we have zeroed out many of those things, we now have funds in this proposed budget, and I certainly agree with Senator Cochran that it is an important change.

I would like to let Peter Myers go into a little more detail.

Mr. MYERS. Senator, we are doing several things that we initiated 7 or 8 months ago. No. 1, we have a governmentwide working group under the Economic Policy Council, that Secretary Lyng chairs. It includes other assistant secretaries and deputy secretaries from other departments and they are coordinating rural development efforts. We have had, in USDA, a series of regional meetings that have brought all of our top federal people in our states, the head of the state FmHA, the head of ASCS into a regional meeting. This was done last fall to begin to implement nationwide, a rural economic development effort. We recognize that you, and Senator Cochran and several other Senators have mentioned that economic development is critical for small towns and our rural areas.

So as a result of this, our people are completely aware of other federal programs. We have implemented an information hotline with a data bank housed at the National Agricultural Library that can be accessed from all Extension offices. This is on a pilot basis right now in five or six states. It should be nationwide in probably another 35 or 40 days.

We were hoping to have it available in January. We didn't reach the target for implementing that. Small communities and rural areas would have access to this data base through a county Extension office for any type of economic information that they would want to have.

We could put them in touch with that information. We also have rural enterprise teams in every state in cooperation with state government. Federal agents will go into a small community and help on any type of economic development they have. If it is some problem that a small community is having and they don't have the resources to go and look at, we will provide this for them.

We have restructured one of the programs in the FmHA, the Business Industry Loan Guarantee Program. In the past 6 months, by restructuring and making loan guarantees at a much lower level than we had before, we have saved or created 7,000 jobs nationwide. That is a drop in the budget, but that is a step in the right direction on a program that had been sitting still, if you will.

Then if you multiply that by what the Commerce Department is doing in redirecting their EDA grants and loans, what SBA is doing to target the more rural areas, I think you can see a real concentrated effort on the part of the federal government to work in small communities and rural areas to provide business opportunities for the farm economy and for citizens in those areas.

PSEUDORABIES PROGRAM

Senator GRASSLEY. Point No. 3, Mr. Secretary is to acknowledge and to complement the $1 million for pseudorabies development and continuing that project, but that will be below present funding, and I think I am going to ask you to consider an increase in this funding. I also wanted to let you know I will be trying to urge my colleagues to maintain the present level of funding. I think that is very important, not only for the pork industry, generally, but because my state is No. 1 in pork production, it is very important to those constituents of mine who see the continuation of that project.

We are about there. We are about finished, and I think from that standpoint, keep funding at the level we are.

FEED GRAIN PROGRAM

Point No. 4, now that we are in the signup of the current 1988 Feed Grain Program, it is my understanding we are also signing up for the 0/92 option. Even though this program will be carried out in the fiscal year 1988 budget, final payments are going to be made within the 1989 fiscal year.

I am interested in the amount of land the Department has projected be idle under that 0/92 program.

Secretary LYNG. I don't think we have a very good estimate on that, do we?

Mr. MYERS. It is a rough estimate, Senator. It is 2 or 3 million acres. My feedback is that there is not a great amount of interest in 0/92, and that was strictly a guess.

Senator GRASSLEY. Then this may be a problem we won't see come about, but you have got a restriction of not allowing over a certain percentage of land to be taken out of production. You have got your signup for the annual program, 0/92, and CRP. Do you see a problem getting over that 50-percent limit?

Mr. MYERS. In a few isolated counties in wheat-producing country, where they are already at the 25-percent limit on CRP, we could have a problem, but it would be very isolated. As we know, from informal information, that is the only place we foresee serious troubles. There could be problems from places in Iowa where they are already at the 25-percent limit.

Senator GRASSLEY. Because all these signups are going on at the same time, 0/92 is not supposed to encompass total idling at more than 50 percent of all the land, right?

Mr. MYERS. That is right.

Senator GRASSLEY. How will you really know where you are?

Mr. MYERS. Well, we will know where we are, because the 0/92 signup ends earlier than the ordinary farm program signup, and then we are going to have a reading on it. If we are over, we are going to go back to the farmers and say, "OK, this is the situation, that you signed up for 0/92. You will have to have only a percentage of 0/92, and is this acceptable or not?"

We will let them, for instance, back out of the 0/92 if they wanted to put it all in or not, whatever percentage we would allow.

Senator GRASSLEY. Then the problems we are hearing from the agribusiness people, the crop input people, fertilizer dealers, and others; being under that limit is not going to be any problem in the final analysis?

Secretary LYNG. No; we will get under that limit, but that isn't to say that there won't be some objection.

Senator GRASSLEY. Oh, yes. Yes, there will be. There are objections to the philosophy of the program, but more importantly, to spread out allowable acreage geographically over the country so that one small business in one county does not get hurt.

Secretary LYNG. We are planning to do that.

Senator GRASSLEY. Well, what is going to be the cost then of the 0/92 Program in the current budget? You are basically saying it is not what we anticipated it to be. Do you know what it is going to be?

Mr. MYERS. We won't know until we see the figures. As I say, it is strictly an estimate.

Senator GRASSLEY. The way we legislated it, didn't we legislate a certain amount into that program?

Mr. MYERS. $20 to $40 million. I will get the actual figure and put it in the record.

[The information follows:]

BUDGET SAVINGS FROM 0/92

The final estimate of budget savings associated with Sections 1201 and 1202 of the Omnibus Budget Reconciliation Act of 1987 was $445 million over the 2-year fiscal year 1988-89 period. While year-to-year figures are extremely difficult to estimate, it is believed that savings during fiscal year 1988 will be small, perhaps $20 to $40 million. These sections dealt with optional acreage diversion programs for wheat and feed grains for the 1988 through 1990 crops. Under the provision, producers might elect to plan an area of between 0 and 92 percent of the farm's permitted acreage and would be guaranteed a deficiency payment of 92 percent of that to which they would have been entitled had they planted the entire permitted acreage, as long as the underplanted acreage were devoted to a conservation use.

Senator GRASSLEY. So you will have to be under that.

Mr. MYERS. In the first year, we estimated $30 or $40 million will be saved in fiscal year 1988.

Senator GRASSLEY. There is no problem with it staying in the budget?

Secretary LYNG. No problem with it staying in the budget.

Mr. MYERS. I agree, there is no problem.

CONSERVATION RESERVE PROGRAM

Senator GRASSLEY. You stated funding for the fourth year of the Conservation Reserve would be $1.9 billion. Is this figure based on the Department meeting the goal of 35 million acres enrolled in the Conservation Reserve Program as set in the 1985 bill?

Mr. MYERS. Yes, it is.

Senator GRASSLEY. In that regard, then, again, what are you doing to see that the limit of no more than 25 percent of land per county is being taken out of production? What are you doing to actually monitor that and see that the guideline is met?

Mr. MYERS. We have that information county by county. When the county reaches 25 percent, that is it, unless all of the agribusiness in the community will come in and make the case that they want to go beyond that. That is handled on a county-by-county basis. When the county reaches 25 percent, there is no more enrollment in the CRP. We have several counties, not a great number, probably 30 to 50 counties, that have reached the limit.

Senator GRASSLEY. When you are getting close to that limit, when you have had an enrollment period—what are you going to do, take them on a first-come-first-served basis when you get up to that limit? If a county is 25.1 percent, and an individual farm puts it over; then is that farmer cut off from participating?

Mr. MYERS. No; it won't be first come, first served. Say we are at 21 percent in the county. This signup, we will take the lowest bids up to 25 percent. It won't be first come, first served. When the signup period is over, it goes to the lowest bid.

Senator GRASSLEY. I'm sorry. That is the way I see it working. I didn't mean first come, first served. I meant on a priority basis, based on the bid.

Mr. MYERS. It is interesting, because we will probably—we don't know—receive some lower bids in those counties where they are close.

SOIL TILTH CENTER

Senator GRASSLEY. I notice that your budget did not include the moneys for the Soil Tilth Center at Iowa State University? Is the Department still committed to that program?

Mr. MYERS. There is very little construction money. Steve, why don't you answer this?

Mr. DEWHURST. There is very little construction money in the budget request.

Mr. MYERS. The only construction money requested in the Department's budget is for the Seed Storage Laboratory in Colorado. There is no money for any other construction projects. The administration has not previously requested money for that laboratory. I will be happy to provide further information on the status of the Soil Tilth Center.

[The information follows:]

The Soil Tilth Center at Ames, IA, is currently under construction and is not scheduled for completion until fiscal year 1989. The Agricultural Research Service has been working with Iowa State scientists to prepare a plan for the staffing and operations of this center. The plan will summarize the type of research to be conducted and the projected scientific staff disciplines required. We will keep you up to date as events proceed.

PLANT SCIENCE CENTERS

Senator GRASSLEY. My last question, Mr. Chairman, your budget has included an increase in the Competitive Research Grant portion of the Cooperative State Research Service. I appreciate your support in that area. The 1989 fiscal year budget summary prepared by the Department mentions funding will be continued for the joint USDA-National Science Foundation, Department of Energy Plant Science Center.

I have recently seen, however, that there is an internal Department memo which concludes with the assessment that, "No funds were designated this past year for the establishment of plant science centers."

Now, those are conflicting signals as to the support that the USDA is willing to give this program. So I would like to have you clarify for me the Department's position in the 1989 fiscal year regarding the establishment of the Plant Science Centers.

Secretary LYNG. We are not prepared this morning to be able to answer that. Could we submit that for the record, please?

Senator GRASSLEY. Yes. OK. Let me only emphasize that I thought that we had that problem all solved and that we were going to move forward with it, and I will be disappointed if we don't.

Thank you, Mr. Chairman.

[The information follows:]

A $10 million program was originally planned for fiscal year 1988, but actual appropriations will only accommodate a more modest program of about $5 million, of which $2 million will come from the Department of Agriculture. The agencies are currently soliciting proposals and plan to award the first grants later this year. The 1989 USDA budget specifically requests $3.4 million to continue this effort in 1989.

SWAMPBUSTER PROVISIONS

Senator BURDICK. Mr. Secretary, the Department's effort to implement the Swampbuster provisions of the 1985 farm bill have met with great controversy in many states. During an oversight hearing I held at the end of January, the Department stated that it was treating wetland determination as a priority. In the Red River Valley and the Devils Lake regions of North Dakota, these determinations were to be made by March 15 of this year.

Do you know the status of the Department's effort to map the wetlands?

Secretary LYNG. I can't go into details on it, Mr. Chairman, but we will be on target. We will be able to meet that date. In view of what we committed, we will complete it by then.

Senator BURDICK. Does the Department intend to deny benefits to those producers who inadvertently violated the Swampbuster provisions before wetland determinations were made on their property?

In other words, if there hasn't been an investigation of their property, will they be penalized?

Secretary LYNG. I don't know what our policy is on that. Do you, Peter?

Mr. MYERS. Well, according to the law, if they converted the wetland, they are going to have problems, Senator, because the law has been in place for 2 years, and the burden was on them if they truly, truly converted a bonafide wetland.

Senator BURDICK. But if they are in the process of mapping now, they won't quite finish by March 15. It seems to be kind of unfair to penalize someone.

Mr. MYERS. Well, here again, this law has been in place 2 years, and the information was there, and they should have known it. There may be extenuating circumstances on a case-by-case basis, but in general, we would have great difficulty in just massively saying that they wouldn't have to comply.

Senator BURDICK. The final regulations haven't been available for 2 years.

Mr. MYERS. Yes, sir; the final regulations are out.

Senator BURDICK. September.

Mr. MYERS. But they are out, and the draft regulations were out, too, well over a year before that.

Senator BURDICK. A staff member tells me the problem in my state, at least, is that they haven't had the manpower to get an answer to their requests; that there is a delay not because of the farmer but a delay in the office.

Mr. MYERS. Obviously, we are not going to try to penalize the farmer, but the law is still there, and we are going to have to look at this on a case-by-case basis. We are working in North Dakota. I know it is a problem from both sides. The environmental groups are pushing from one side and the farmers are pushing from the other side. We are trying to take a balanced approach there.

If it is just maintenance of existing drainage, the farmer will not be penalized at all. But if it is new drainage that does impact a bonafide wetland, he has problems as far as compliance.

Senator BURDICK. I am not arguing about that. I am talking about the time factor of the determinations.

Mr. MYERS. Let me look into it further and clarify to you for the record exactly what is going on and what would happen.

Senator BURDICK. I appreciate it.

[The information follows:]

SCS REPORT ON WETLAND IDENTIFICATION IN NORTH DAKOTA

Wetland issues in North Dakota existed long before the FSA was signed into law in 1985. Wetland drainage has been extensive with about 50 percent of the wetlands drained since farming began in North Dakota.

Wetland acquisitions over the past several decades by the U.S. Fish and Wildlife Service and national environmental groups and concerns over the Garrison Diversion Unit have resulted in a public that is very sensitive to wetland policy and issues. In 1977, the Governor of North Dakota placed a moratorium on all wetland purchases by the Fish and Wildlife Service. In 1985, the moratorium was lifted with special conditions placed on future purchases. There is an ongoing attempt by the current Governor to work cooperatively with the U.S. Fish and Wildlife Service and national environmental groups to resolve some of the environmental issues concerning the Garrison Diversion Unit.

Swampbuster provisions in the FSA have also been controversial with agricultural producers. Consequently, we have made a strong effort to accelerate the identificaiton of wetlands on each farm. It is our opinion that when farmers actually know what wetlands will need to be protected on their individual farms much of the concern over Swampbuster will dissipate.

In January, the SCS implemented a wetland identification project in the Red River Valley. The goal of this project was to identify all the wetlands in the six counties in the Red River Valley in 1 month or 20 working days. Staffing for the effort was provided by 17 SCS employees in and out of state and local field office support. This project was completed ahead of schedule and work was started in four additional counties which was completed prior to the time the teams moved to Minnesota to identify wetlands in their part of the Red River Valley. Wetland identificaiton is now complete in Cavalier, Pembina, Walsh, Grand Forks, Triall, Cass, Richland, and Sargent Counties. Identifications are partially completed in Ramsey and Ransom Counties.

We have placed a local team in Devils Lake to complete the determinations in Ramsey County.

We have organized six more teams of North Dakota employees and holdovers from out-of-state details to complete the wetland identification process in Barnes, Steele, Towner, Bottineau, and Ward Counties. This group will also complete Ramsey, Nelson, and Ransom Counties by the end of March. The teams will start work on February 29, 1988.

Field offices in the counties with wetland identification completed, have spent the last 2 weeks working with operators to review the wetlands identified on their farms. Response of the farmers has, in general, been very favorable. In Cavalier, we were informed that only 2 out of the first 50 farmers disagreed with the wetlands identified. A field trip to check wetlands on these sites may be required to resolve their concern. A report from Cass County stated that over 125 farmers reviewed and agreed with wetlands identified on their land in 1 day of meetings.

We have received reports of problems from only one county (Grand Forks) where the farmers contacted felt that too many wetlands have been identified. We have arranged to make a review of the problem areas in March before more farmers are contacted for completion of wetland determinations.

We are very well satisfied with this wetland identification project. It has good support from the farmers contacted to date, SCS employees, State Soil Conservation Committee, North Dakota Association of Soil Conservation Districts, and other agencies. Carl Grindberg, Chairman of the State Soil Conservation Committee, has voiced public support for the process in Cass County. Charles Klosterman, Immediate Past President of the North Dakota Association of Soil Conservation Districts, has voiced support for the project. We also have the support of Lloyd Jones, FSA Coordinator for the Fish and Wildlife Service. This process was reviewed with the U.S. Fish and Wildlife Service and the Agricultural Stabilization and Conservation Service and has their concurrence.

SUGAR IMPORTS

Senator BURDICK. Mr. Secretary, when you announced last December 15 that the sugar import quota for calendar year 1988 was going to be 750,000 tons, down from a little over 1 million tons in 1987, it set off a new round of criticism on the sugar program and particularly, in fact, some expansion has taken place in domestic production.

But there is a clear indication that one of the main reasons the import quota had to be cut was because of the continued increase in the indication of sugar-containing products which offset and displaced the demand for sugar in the marketplace.

There was a published report, Mr. Secretary, that you presented to your colleagues on the President's Economic Policy Council with two options with regard to the 1988 quota: Reduce the quota to 750,000 tons or leave the quota at 1 million tons then impose additional importers' restrictions on some of these sugar-containing products.

I understand you favored option two. What is the fact?

Secretary LYNG. Mr. Chairman, the fact is that I did not make a recommendation. That paper that you are referring to was made by what we call a working group. It was made to the Economic Policy Council. We don't talk about the individual agencies' viewpoints in meetings of the Economic Policy Council. It is an advisory group to the President. I would not feel at liberty to disclose what went on at that meeting or what my position was on that issue.

Senator BURDICK. In other words, no testimony on that point?

Secretary LYNG. I can't talk about it.

Senator BURDICK. OK.

Mr. Secretary, as you know, section 583 of the fiscal year 1988 continuing resolution authorizes and directs the Department of Agriculture to implement a special sugar export enhancement program for refined sugar equal to a specified amount of raw sugar as part of the Caribbean Basin Initiative countries and the Philippines, with the export subsidized by the issuance of the Commodity Credit Corporation's certificates redeemable for CCC on commodities.

Since this authority obviously expires at the end of this fiscal year, it is apparent that in order for it to be of any value to our trading partners in the Caribbean and the Philippines, the program must be implemented forthwith.

It has been almost 2 months now since the continuing resolution was signed into law. Can you tell the committee how soon you expect the rules to be promulgated and the program implemented?

Secretary LYNG. The regulations are being drafted now and have been under draft consideration by the Office of the General Counsel. The regulations are complicated to draft, and I am hopeful that the drafting will be completed within a short time.

However, I should also add that completing the regulations will not necessarily ensure that the plan, or the proposal, or the program will operate. Our attorneys tell me that they really do not think we have the legal authority to use CCC commodities or assets as an export subsidy payment for non-U.S.-produced agricultural commodities, and they have told me that it would be a violation of law for me to do so.

Further, the legislation called for it to be a no-cost program, based upon some estimates of payments that we would be making out of CCC to individual sugar-exporting countries. We did not, and have not in this year, announced any payments like that, and I do not intend to make them, so that that potential for offset as provided for in that law does not exist. As I understand it, there are two legal reasons, which appear to be sufficient to me, to preclude our putting that program in operation.

Senator BURDICK. Mr. Secretary, when you sent Congress your Sugar Program Improvement Act proposal last March, the supporting material stressing the needs for enacting it included the assertion that imports of sugar-containing products had increased 155 percent between fiscal years 1982 and 1986.

I understand that there is a provision in the omnibus trade bill that directs you to conduct a study designed to get a better handle on the situation. It directs you to determine whether products containing sugar are being imported in the United States in such a manner, in such quantities as to circumvent and avoid quantitative limitations on sugar and sugar-containing products under section 22. When this provision was added to the trade bill last summer, we were told there was no objection to it on the part of the Department of Agriculture because there was a study already underway.

The trade bill, of course, is still in conference, but what can you tell this committee about your Department's investigation of this clear effort to short-circuit the sugar program?

Secretary LYNG. Well, I think we did complete a study. At least I was given some data which would indicate rather clearly that there is a sizable increase in the amount of sugar-containing products coming into the United States, and that it does have an adequate amount to have a material effect upon the sugar quota.

Senator BURDICK. Could you provide us with that study, if it is available?

Secretary LYNG. Yes; we can provide you with that, the information that I was given. I think it could be termed a study.

Senator BURDICK. Thank you.

[The information follows:]

PERCENTAGE INCREASES IN IMPORTS OF SUGAR-CONTAINING PRODUCTS, 1982–86

[In percentage groups, with actual percent in parentheses]

100 percent or larger increase - 69 TSUS items
(approx 20% or higher annual average increase)

TSUS Number	Description
146.1400	Apples, Prepared, Preserved, NES (146 %)
146.2400	Apricots, Prepared, Preserved, NSP (613 %)
146.4400	Bananas, NSPS, Prepared, Preserved (146 %)
146.7900	Blueberries, Prepared (187 %)
146.8400	Raspberries, Prepared (963 %)
146.8500	Strawberries, Prepared (204 %)
146.8600	Berries, Other, Prepared (188 %)
146.9900	Cherries, Other, Prepared, Preserved (464 %)
148.0800	Mangoes, Prepared, Preserved (103 %)
148.3500	Melon, Prepared, Preserved (1686 %)
148.7700	Whole Flesh Peaches, Prepared, Preserved (3133 %)
148.7800	Other Peaches, Prepared, Preserved (5332 %)
148.8600	Pears, Prepared, Preserved, NES (21030 %)
149.6000	Fruits, Prepared, Preserved, NES (184 %)
150.0500	Fruit Mixtures, NEC (232 %)
147.0200	Citron, Prepared, Preserved, NSP (infinite)
147.0500	Grapefruit, Prepared, 8/1 - 9/30 (536 %)
147.0900	Grapefruit, Prepared, 10/11 - 10/31 (315 %)
147.1700	Grapefruit, Prepared, 11/1 - 7/31 (170 %)
147.3000	Kumquats, in Airtight Containers (500 %)
147.3600	Citrus, Prepared, Preserved (306 %)
146.6800	Blueberries, Frozen (130 %)
146.6900	Black Currants, Frozen (264 %)
146.7100	Cranberries, Frozen (3400 %)
146.7400	Raspberries, Frozen (765 %)
146.7625	Strawberries, Frozen, Not Over 40 oz. (216 %)
146.7800	Berries, Other, Frozen (24325 %)
146.9700	Cherries, Frozen (infinite)
154.0500	Cherries, Candied, Glace (932 %)
154.1000	Chestnuts, Candied, Prepared (129 %)
154.4300	Kumquats, Candied (157 %)
154.5000	Nuts, Candied, Glace 382 %)
154.6000	Vegetables, Candied, Glace (213 %)
154.9000	Mixtures, Fruits, Nuts, Candied (267 %)
152.2000	Banana and Plantain Flour (8600 %)
152.4300	Cashew Apple Paste and Pulp (133 %)
152.6200	Orange Paste and Pulp (116 %)
152.6500	Papaya Paste and Pulp (391 %)
152.7800	Pear Paste and Pulp (177 %)
153.0200	Cashew Apple and Mango Jelly (100 %)
153.0300	Strawberry Jelly, Jam, Marmalade (1145 %)
153.2000	Papaya Jelly and Jam (infinite)
153.2400	Pineapple Jelly and Jam (650 %)
153.2800	Quince Jelly and Jam (155 %)
153.3200	Jellies, Jams, NES (399 %)
152.8840	Other Fruit Paste, Pulp (818 %)
153.0700	Currant, Other Berries, Jams and Jellies (521 %)
182.9000	Edible Preparations of Gelatin, NSPF (1148 %)
183.0500	Edible Preparations, Under 5% Butterfat (250 %)
182.2000	Biscuits, Cakes, Bakery Products (114 %)
156.4700	Confectionery Coatings (486 %)
156.3045	Chocolate, Sweetened, No Butterfat (210 %)
156.2500	Chocolate Bars, Sweetened, Under 10 lbs. (1345 %)
157.1020	Candy, Confectionery, Not Cont Chocolate (231 %)
	Note: Broken Out in 1986 as 157.1005 and 157.1010
155.7540	Sugar, Sirup, Other (infinite)
155.7520	Sugar, Sirup, High Fructose (2070 %)
155.3500	Sugar, Over 6% Non Sugar Solids (216 %)
155.6500	Dextrose Sirup (6855 %)

TSUS Number	Description
157.1040	Candy, Confectionery, NES, Cont Chocolate (196 %)
	Note: Broken Out in 1986 as 157.1045 and 157.1050
145.4100	Almonds, Shelled, Prepared or Preserved (360 %)
145.5000	Pecans, Shelled, Prepared or Preserved (3156 %)
145.5300	Pistachios, Shelled, Prepared or Preserved (2010 %)
145.5500	Walnuts, Shelled, Prepared or Preserved (119 %)
145.5200	Pignolia Nuts, Shelled, Prepared or Preserved (207 %)
145.6500	Litchie Nuts, in Airtight Containers (205 %)
145.7010	Macadamia Nuts, Shelled, Prepared or Preserved (933 %)
145.7020	Other Nuts, Pickled, Prepared or Preserved (282 %)
	75% to 100% increase - 7 TSUS items (approx 15-20% average annual increase)
146.7000	Boysenberry, Frozen (81 %)
152.3000	Orange Peel, Prepared, Preserved, NES (88 %)
152.4000	Apricot Paste and Pulp (86 %)
152.5800	Mango Paste and Pulp (86 %)
145.0900	Coconut Meat, Prepared, Preserved (79 %)
182.9200	Edible Preparations, Over 5% Butterfat (87 %)
184.7070	Animal Feeds, NSPF (99 %)
	50% to 75% increase - 5 TSUS items (approx 10-15% average annual increase)
148.9840	Pineapples, Except Canned, Prepared, Preserved (66 %)
147.3160	Oranges, Prepared, Preserved (57 %)
152.5400	Guava Paste and Pulp (67 %)
182.3300	Grass Jelly (74 %)
182.4600	Sauces, Except Thin Soy (51 %)
	30% to 50% increase - 6 TSUS items (approx 7-10% average annual increase)
148.6500	Papayas, Prepared, Preserved (41 %)
147.2900	Oranges, Mandarin, Canned (46 %)
146.7630	Strawberries, Frozen, Over 40 Oz. (42 %)
154.4000	Ginger Root, Candied (37 %)
154.4500	Pineapple, Candied (48 %)
152.4000	Apple, Quince, Pulp, Paste (41 %)
	30% or smaller increase - 43 TSUS items (approx less than 7% average annual increase)
146.8200	Black Currants, Prepared (14 %)
146.8300	Cranberries, Prepared (0 %)
147.7700	Grapes, Prepared, Preserved (0 %)
147.8500	Guava, Prepared, Preserved, NSPF (9 %)
148.9820	Pineapples, Canned (29 %)
149.1500	Plantains, Prepared, Preserved (0 %)
149.2820	Plums, Prunes, Canned (15 %)
149.2840	Plums, Prunes, Except Canned (19 %)
150.0200	Fruit Mixtures, Canned (0 %)
147.2100	Lemons, Prepared, Preserved (15 %)
147.2600	Limes, Not Frozen or in Brine (0 %)
154.1500	Citron, Candied, Glace (0 %)
154.2500	Lemon Peel, Candied, NES (23 %)
154.3000	Orange Peel, Candied (0 %)
154.3500	Fruit Peel, Candied, NES (0 %)
152.0500	Fruit Flours, Not Banana or Plantain (0 %)
152.2600	Citron Peel, Prepared or Preserved, NES (0 %)
152.3400	Lemon Peel, Prepared, Preserved, NES (0 %)
152.5000	Fig Paste and Pulp (0 %)
152.6000	Tamarind Paste and Pulp (0 %)
152.7200	Banana and Plantain Paste and Pulp (24 %)
152.7620	Strawberry Paste and Pulp (0 %)

TSUS Number	Description
152.7640	Other Fruit Paste and Pulp (0 %)
153.0420	Strawberry Jelly (0 %)
153.0440	Jellies and Jams, NES (0 %)
153.0600	Jellies and Jams, NES (0 %)
153.0800	Guava Jelly and Jam (0 %)
153.1600	Orange Marmalade (16 %)
152.8820	Strawberry Paste, Pulp (0 %)
153.0500	Blackberry, Mulberry, Jelly or Jam (0 %)
145.0700	Coconut Meat, Frozen 10% or Less Sugar Added (9 %)
145.0800	Coconut Meat, Shredded (0 %)
166.2000	Ginger Ale, Ginger Beer (0 %)
166.4040	Beverages, NSPF (23 %)
182.3000	Cereal Foods and Preparations (0 %)
156.3065	Chocolate, Sweetened, Under 5.5% Butterfat (29 %)
156.3050	Chocolate, Sweetened, Over 5.5% Butterfat (0 %)
156.3020	Chocolate, Sweetened, Except Bars, Bulk (0 %)
155.6000	Dextrose (13 %)
145.4200	Brazil Nuts, Shelled, Prepared or Preserved (28 %)
145.4400	Cashews, Shelled, Prepared or Preserved (22 %)
145.4600	Filberts, Shelled, Prepared or Preserved (0 %)
145.0200	Chestnuts, Shelled, Prepared or Preserved (0 %)

RURAL DEVELOPMENT

Senator BURDICK. One last question. Mr. Secretary, you speak of rural development initiatives. In support of that, you mentioned $400 million in loans and $75 million in grants. But these levels are cut back from a loan level of $536 million and grants of $169 million. How can you describe these cutbacks as an initiative? Congress has done much better than this over the 10 years. Can anybody explain that, the decrease?

Secretary LYNG. The figures that I mentioned, Mr. Chairman, are the amounts that are in the budget as it has been submitted. They are somewhat lower than the amount appropriated by the Congress in the 1988 fiscal year budget.

We think it is an adequate amount, and as we pointed out earlier, it is a good deal better than what we have submitted to the subcommittee in previous years, where many of these were zeroed out.

Senator BURDICK. You are telling me, then, that the $400 million in loans and the $75 million in grants is in the President's current budget, then? Is that right?

Secretary LYNG. That is correct.

Senator BURDICK. The figures that are in the President's budget are reduced from what we have had in past years.

Mr. Dewhurst. The figure in the President's budget for rural development of water and sewer grants is $75 million, Mr. Chairman, and there is $396 million in loans for water and sewer systems, community facility and business and industrial development.

Senator BURDICK. They are lower than last year?

Mr. DEWHURST. Yes, sir, they are lower.

Senator BURDICK. Senator Harkin.

FEEDING PROGRAMS

Senator HARKIN. Thank you, Mr Chairman.

Mr. Secretary, I had another area I wanted to go over with you. As you know I chair the Nutrition Subcommittee. We had some hearings on the feeding programs. Senator Leahy, who is the chairman of the committee, and I have talked together about having some further hearings and looking into what is happening with our feeding programs.

A couple of things happened in the last couple of weeks. I was in Iowa about 2 or 3 weeks ago, whenever we were on that break. I did a workday at the upper Des Moines Community Action Agency and spent some of the time there when they were giving out food parcels during that day. I showed up at this place at 8 o'clock in the morning. They had announced they were going to hand out the food beginning at 10 o'clock in the morning.

It was 4 degrees above zero, and at 8 o'clock in the morning, there was already an elderly woman standing outside to get her food in 4 degree weather. I went out and did some other things, and by the time I got back at 10, the line was quite long outside, waiting to get the packages of food.

Part of the package of food that was being distributed consisted of surplus commodities, cheese, rice, honey. I don't know if there was any nonfat dry milk. I think we were out of nonfat dry milk at the time.

They told me that they had received word that they would not be getting any more of these commodities past next month. I came back to Washington and received a letter from Assistant Secretary Bode. I think it was addressed to Senator Melcher, one to me, also, that basically said that there would be no cheese or nonfat dry milk; that those commodities would be terminated in April and the rice and honey by March. The TEFAP Program is going to be drastically impacted, and these feeding programs are going to be drastically impacted by these reductions.

I remember what first led me to look into this when we were up in Senator Melcher's office before he went to the Far East and we talked about the reductions in inventories. I did not realize they had been that drastic.

But when I look at the budget—the President's budget—for nutrition programs, emergency food and shelter, the percent change is minus 33.5 percent in this new budget; food donations for low-income groups down 1.4 percent; TEFAP, minus 100 percent, total phaseout of TEFAP; WIC and commodity supplemental food down one-tenth of 1 percent, just basically level, and yet the number of hungry people out there and the people that I see standing in those lines has not gone down.

There is one other effect, too. It is that we use these bonus commodities for the School Lunch Program. I am wondering what your position is on this, and what we are going to do to meet the real needs that people have out there for these commodities that we have been using for all of these supplemental feeding programs. We have been using them for several years now.

The TEFAP and everything else I know was said to be temporary, but the fact is, these hungry people who are out there aren't temporary; they are there. I just see a real impact on a lot of poor people in this country.

Secretary LYNG. Well, Senator, as you and I discussed earlier in that meeting in Senator Melcher's office, there has been a major change in the inventories of the Commodity Credit Corporation, not only in the grains that we were talking about earlier, but also in some of these dairy products, honey and other things that have been used in the Temporary Emergency Food Assistance Program.

The primary federal plan for feeding the hungry is the Food Stamp Program. This is after many years of discussion and debate in the Congress. At a time when I was an Assistant Secretary at the Department of Agriculture, we made a choice in this country and went for food stamps rather than commodity distribution. We felt it was a better way as a nation.

Food stamps are designed to be adequate to take care of the nutritional needs of needy people. The fact became clear that we had huge inventories following the period of rapid buildup in the support price of dairy products in the early eighties. We built huge inventories of butter, powdered milk and cheese and big inventories of a number of other items.

We have now, using the 1985 farm bill, reduced the production, and we have a much closer balance between supply and demand. Through the use of programs, like the Temporary Emergency Food Assistance Program, we were able to reduce those inventories, and now we are to the point where we simply don't have an inventory and enough butter or enough cheese to continue the program as we have done it in the past.

Senator HARKIN. Again, I don't mind that so much as long as there are other sources of money coming in to continue to meet the nutritional needs of these people. We just had a huge increase in the number of poor people in the last decade, up from about 26 million to 32 million in this country.

A lot of these people are falling through the holes in the Food Stamp Program. I know we have got to make some changes in the Food Stamp Program, but a lot of the people that I saw who were lining up to get that food simply were not making it on food stamps for a variety of reasons.

Then the School Lunch Program, they have come to rely on these. Can you give me any assurances that the School Lunch Program will not be adversely affected by the loss of the commodities?

Secretary LYNG. The budget calls for us to continue to supply either in cash or in commodities what is required for the School Lunch Program.

Senator HARKIN. So the prices won't go up to the families for school lunches?

Secretary LYNG. Well, I can't guarantee that. That is based upon the local situation and on the cost of food.

Senator HARKIN. But I mean, you take away these commodities, that they have been getting——

Secretary LYNG. They aren't going to take away the commodities that they have been getting. They will get either commodities or money, which is the way the program works. Most of the help that we give to the School Lunch Program, the section 32 funds, are in cash.

Senator HARKIN. So you are saying that any reduction that they get in commodities will be made up for with money, cash?

Secretary LYNG. Yes.

Senator HARKIN. That is good. Because there is some fear out there that they would not get the money to make up for the loss of the commodities that they have been getting.

Secretary LYNG. Still, in this budget, over $20 billion is in food programs of the Department of Agriculture, over $1 billion a month in food stamps. We have a huge program to assist the hungry in meeting their nutritional needs.

FOOD STAMP PROGRAM

Senator HARKIN. You mentioned the Food Stamp Program. That was and has been our major program for fighting hunger in America. But since 1980, hunger has increased by every statistic that I have seen in America; the number of poor people have increased; but food stamp participation has declined since 1980.

Secretary LYNG. Well, we probably could quarrel, Senator, about the question of need. The statistics that I see indicate that since the time you are talking about, we have added 14 million jobs in the United States. Unemployment has dropped materially, and we are down to 5.6 or 5.7 percent unemployment, the lowest it has been in 10 or 12 years. We have noticed over the years that unemployment is a pretty good index of the need for food stamps. It is not the only one, but it certainly is one.

I am of the opinion that the Food Stamp Program is doing a pretty good job of meeting the needs of needy Americans.

Senator HARKIN. Mr. Secretary, in 1986, the level of poverty was 32.4 million, and that was an increase over 1980. I also had a figure—I don't have it right in front of me, but I remember it—that 20 percent of those who are now categorized as in poverty—that is a family of four making less than $11,600 a year—20 percent of those are working. Twenty percent work. One out of five work. They work. They have a job, but they make less than $11,600 for a family of four.

That is the kind of thing that we are facing. Sure, the jobs may be up, but a lot of those are "those kinds" of jobs, and they are still in poverty; they have a need out there.

Secretary LYNG. They are eligible for food stamps, then.

Senator HARKIN. They are eligible for food stamps. But food stamp participation has declined, and I am saying, why is that? I am trying to get a handle on why poverty increased, the number of people in poverty has increased, but food stamp participation has gone down.

Secretary LYNG. I really don't know that those figures that you are giving me are correct. They don't make sense to me.

Senator HARKIN. I can give you the Department's own figures on that. Food stamp participation has declined.

Secretary LYNG. Oh, I know that food stamp participation has come down very, very slightly, but I don't think it is because there has been an increase in the number of people in poverty.

Senator HARKIN. Oh, you don't think so? Do you think there are no more people in poverty today than there were 10 years ago?

Secretary LYNG. No; I think there are less.

Senator HARKIN. Do you have some statistics to back that up?

Secretary LYNG. Well, I don't have them with me, but I will be happy to submit them.

Senator HARKIN. Could you? I would like to take a look and see where you are getting that data. Everything I have seen indicates that the number of people who fall to the level of $11,600—it was $11,200; it is now $11,600—is greater today than it was 10 years ago, 8 years ago, whatever you want. The number of people who fall in that category has increased.

Secretary LYNG. We will submit the data for the record.

[The information follows:]

POPULATION IN POVERTY

	Total population	Total number below poverty	Total percent below poverty
1979	222,903,000	26,072,000	11.7
1980	225,027,000	29,272,000	13.0
1981	227,157,000	31,822,000	14.0
1982	229,412,000	34,398,000	15.0
1983	231,700,000	35,303,000	15.2
1984	233,816,000	33,700,000	14.4
1985	236,594,000	33,064,000	14.0
1986	238,554,000	32,370,000	13.6

Mr. MYERS. Senator, I think one of the reasons we have fewer numbers of people using food stamps is that we have eliminated a lot of duplications on food stamp rolls. We have gotten college students who don't qualify, in many instances, off food stamp rolls. I really believe that we have more of the needy people on food stamp rolls than we had previously. The person on the street who has no home address qualifies for food stamps. These are some of the things, the changes that have been made.

Secretary LYNG. I have here, Senator, information that participation in the Food Stamp Program has been hovering around 20 to 21 million. It peaked out in 1983 at 21.6 million and has dropped and is now 18.8 million. That is an estimate.

Senator HARKIN. It is 18.8 million now?

Secretary LYNG. So it has really been a relatively constant figure over a 10- or 12-year period.

Senator HARKIN. I tend to think that a lot of the drop in that food stamp participation, well, it has to do with some barriers. I have run into one, and we have got to do something about it. I know it was done to take care of cheating, where two families live together and they combine the incomes and that disqualifies them, so that they don't live together.

So an individual with a couple of kids won't take in a sister or brother with a couple of kids and combine and try to live together. They stay separate. They would be prevented from participating in the Food Stamp Program if they live together. That is one thing I think that is wrong, because a lot of people have lived together and they take care of one another, families, especially, and they are denied food stamps.

I think another reason is because of the bonus commodities we have been giving out. People have access to them. They have access to a lot of different feeding programs. What I am concerned about, I just repeat it one more time for everyone's sake: as these inventories have been reduced down and what I see in the President's budget, I don't see any kind of other increases on the other side of the ledger to meet the need that is out there for these programs.

Secretary LYNG. Senator, the Food Stamp Program is an entitlement program. The eligibility standards don't change, and they don't tighten it up to meet a budget number. The food stamp number in the budget is an estimate of what we expect to use, making. all the other assumptions that are made on unemployment and the prices of food and so on.

But if there is an expansion in the need, this, as an entitlement program, will continue to take care of the needs of people, eligible people for food stamps.

Senator HARKIN. But the question is, who is eligible? That is what I am saying. There are some barriers to participation I think we have to look at, some barriers for people getting in. They are not eligible because of the regulations, because of the laws. I think those have to be changed.

My staff tells me that 32.4 million people in 1986 were in poverty, 19.3 million were on food stamps. So there are quite a few not on food stamps. I am trying to figure out exactly why they aren't, if they are eligible.

Secretary LYNG. They certainly should be eligible.

Senator HARKIN. I don't know that they are eligible. There is something wrong when they aren't on food stamps. That is a substantial amount of people. You are talking about almost 13 million people who, for some reason, fall below the poverty line but they are not on food stamps.

Secretary LYNG. Let me say that the Department of Agriculture and the Administrator of the program have set no road blocks to keep those eligible people from participating in the program.

Senator HARKIN. I guess the question is on the eligibility criteria itself. That is the real question.

Mr. MYERS. It depends on where you get your definition of the income. If you get it from income tax, it could make quite a difference. For instance, farmers, might have an adequate level of income to live on, but with their depreciation and schedules and things like that, they would fall in the category of not having much net income. Other self-employed people might be the same way. So it depends where that 32.4 million figure comes from and how it is calculated.

Secretary LYNG. I think there will be some hearings. Assistant Secretary Bode told me this morning that within the next week or so there are going to be hearings in both the Senate subcommittee and the House on these issues. We are not prepared here with the data, but we will be glad to forewarn him that as time goes on, these questions will be asked of him and he will be prepared to respond to them.

Senator HARKIN. I just wanted to discuss it with you, since I found out about these commodities and what is happening. I see some things coming down the road that I think a few steps taken now to prevent would serve us well.

Mr. Chairman, I don't want to take much more time. I just had one other area I wanted to cover with the Secretary.

NUTRITION EDUCATION AND TRAINING PROGRAM

I am told there was a misunderstanding relative to continued funding on the Nutrition Education and Training Program in this year's budget. I don't expect you to know all these little programs. I don't know them all myself, obviously. But we put some money in there for the Nutrition Education and Training Program under the Extension Service, and I have learned that there is a misunderstanding about continued funding of that program. I am told that OMB is saying that it is not being funded.

I am just wondering if you can just look into that for me.

Secretary LYNG. I will let Mr. Dewhurst comment on that.

Mr. DEWHURST. Yes, sir, Senator. There was a technical error in the presentation of the President's budget last year, which was picked up by the Congress in its final action on the appropriations bill which accidentally deleted the legal citation for that program.

However, unobligated balances from last year are available and can be used to carry out that program this year. Assistant Secretary Bode has talked to OMB about that. They have agreed to our proposal. The technical documents necessary to do that are pending at OMB at the present time, and so we expect very quickly to be able to release the funds and proceed with that program this year.

Senator HARKIN. These are unobligated funds from last year?

Mr. DEWHURST. Yes, sir.

Senator HARKIN. Is that $5 million?

Mr. DEWHURST. Yes, sir; we had actually already spent $1 million under the continuing resolution last fall, so the amount at issue right now is the remaining $4 million.

Senator HARKIN. What you are saying is we don't need to take any action up here?

Mr. DEWHURST. No, sir; so far as we know, the money will be released very quickly.

Senator HARKIN. Thank you very much. Thank you, Mr. Chairman.

SUBMITTED QUESTIONS

Senator BURDICK. Additional questions will be submitted, Mr. Secretary, to you from Senators Sasser, Domenici, Cochran, Bumpers, and me. I trust in good time you will have a reply for the record.

[The following questions were not asked at the hearing but were submitted for response for the record:]

QUESTIONS SUBMITTED BY SENATOR BURDICK

SUNFLOWERS

Question: Mr. Secretary, as you know, I inserted into the Fiscal Year 1988 Appropriations Act $10 million for purcahsing sunflower oil -- which will then be used to promote sunflower oil exports. How are you implementing this program?

Answer: The Department is in the process of developing the operational procedures for the Sun Oil Assistance Program (SOAP). Due to the structure of the sunflowerseed oil industry and the difficulties involved in purchasing a large quantity of sun oil, storing it and them releasing the oil to the exporter, development of the operational procedures for this program is more complex than has been the case for Export Enhancement Program initiatives for vegetable oils. The Department is working on a set of procedures which address these unique cahracteristics of the industry.

Question: What effect do you expect the program to have on the sunflowerseed market in this country?

Answer: Under the current Export Enhancement Program initiatives for vegetable oils and commercial sales made to date, exports of sun oil are very good. We believe that the SOAP program will help us to increase our sun oil exports. However, we must be alert not to displace commercial sales.

Question: What other efforts are being used to promote the export of sunflowerseed products?

Answer: The National Sunflower Association (NSA) participates in the FAS cooperator program to increase demand for sunflowerseed and products in foreign markets. Major emphasis of this activity is promoting the use of sunflowerseed oil through trade servicing and technical assistance.

In addition, NSA is carrying out a $3 million Targeted Expert Assistnce program in Japan, Mexico and Venezuela to promote the use of sunflowerseed oil through consumer promotion.

STORAGE

Question: Are you aware of the critical shortage of rail cars in some parts of the country and that many farmers and small elevators are having difficulty in moving grain? How will USDA deal with this problem?

Answer: In the last month or so, we have begun to hear of difficulties being experienced in securing rail cars. In fact, CCC itself, has had some of those experiences. Shipments for P.L. 480, Title II foreign donations and for Section 416 donations have been delayed due to rail car scarcity. In some cases, CCC has been relocated to the bottom of the waiting list for cars so that other shippers may be served.

There is little the Department can do to improve a situation of rail car scarcity. In the past, we have sometimes tried to move more of our shipments on water or by truck, but the Department must keep an eye on costs, too.

Certainly, when deliveries of loan collateral grain, either cannot be made because of local storage tightness caused by rail car shortages or will unreasonably exacerbate such storage tightness, farmers with maturing farm-stored loans may continue to hold the grain on the farm. After 60 days, CCC will begin storage payments to a producer in that situation.

MARKETING LOANS

Question: Mr. Secretary, over the past couple of years, we have seen marketing loans for cotton and rice significantly increase exports for these commodities. Many farm groups believe that other commodities would also benefit by having a marketing loan for their commodities.

You have the authority to implement a marketing loan for many of the commodities, including soybeans and sunflowers, yet you have declined each year to implement a marketing loan. What is your justification for refusing to implement a marketing loan for those commodities where you have the authority?

Answer: The fact that the marketing loan program may have contributed to export competitiveness in rice and cotton over the last year or two does not mean that exports of grains and oilseeds would benefit to the same degree if marketing loans were implemented for them. Since our share of world trade in rice and cotton has traditionally been much smaller than has our share of the grain and soybean trade, price reductions through the marketing loans for rice and cotton were much more likely to lead to higher exports. This was especially true in the case of rice. Even so, the marketing loan for these two crops has cost about $1.6 billion so far, despite that U.S. exports were helped by reduced production and higher consumption overseas. World stocks of cotton and rice are down for the second straight year.

For grains and oilseeds, however, Congress provided the authority to adjust loan rates downward if necessary to improve our competitiveness in world trade, an authority not provided for rice and cotton. Thus, the use of the authority to lower loan rates has proved to be effective and marketing loans for grains and soybeans have not been needed. In the last two years, the U.S. share of world trade in grains and soybeans has climbed back toward historical levels as we have reduced our price floors. At the present time. reduced foreign supplies and increased world consumption have combined to raise the entire world price structure. Thus, marketing loans would not serve to expand U.S. export markets.

One very important source of our hesitancy about marketing loans on grains and oilseeds is the potential cost. While very little, if any, increase in exports could be expected to result from marketing loans in today's price environment, the potential for future additional outlays is in the billions of dollars. Any marginal improvements in market share would come from a potentially large cost.

ASIAN TRIP

Question: Mr. Secretary, you recently returned from a two-week trip to Asia. Could you please tell the Subcommittee about that trip -- about what you learned and what you now see for the agricultural trade outlook in the region?

Answer: The primary purpose of my Asian trip was two-fold -- first, to explore the opportunities for U.S. agricultural trade and second, to expand our joint understanding with regard to the Uruguay Round of multilateral trade negotiations going on in Geneva. The trip gave me the opportunity to meet with leading officials in a major trading area where no U.S. Secretary of Agriculture has traveled for a decade. We are always trying to expand our markets, so we are actively involved in market development activities for U.S. agricultural products in this region. But, at this particular time, we are also intensely interested in the Uruguay Round negotiations.

Consequently, the Uruguay Round negotiations were a central theme in my talks with leaders in Thailand, Singapore, Indonesia, Malaysia, and the Philippines. All of these countries are members of the Cairns group which call themselves the "non-subsidizing" agricultural nations and, as a group, they agree with the U.S. proposed provisions for the phase-out of export subsidies for agricultural products. Support and understanding between ourselves and the member countries of the Cairns group are essential if we are to attain a freer trade system through the Uruguay Round. From our perspective, meetings with key decision makers in all of these countries brought about a better appreciation and understanding of our various concerns and positions with respect to agricultural trade.

The five Asian countries I visited purchased over $700 million of U.S. agricultural products in 1986. The trade outlook for the region is mixed. Singapore, contrary to the other four countries, is a good market for high-value products. Quality, diversity of product lines, service and marketing effort are crucial to improving position in this market. Its economic growth is dependent on macroeconomic developments unrelated to agricultural production or trade. We anticipate a steady growth, closely related to economic growth, for U.S. processed and high-value products in Singapore.

Indonesia, the Philippines, Thailand, and Malaysia purchase primarily bulk agricultural items. Price competitiveness on bulk items is often more important than service or quality. Concessional programs will remain important for maintaining trade levels. Cautious debt portfolio management, continued weakness of currencies against the dollar, and relatively high U.S. interest rates will continue to hamper effectiveness of commercial credits.

Use of aid to maximize long term growth, rather than short term gains, may be more beneficial. A major key to their emergence as agricultural markets is sustained, strong economic growth and sound balance of payments management. Agricultural production and trade development are very important to the economic growth prospects. Assuming normal weather patterns in the region, and no significant changes in our concessional programs, we anticipate continued moderate growth in our sales of agricultural products to this region.

Question: Are you proposing any new initiatives as a result of the trip?

Answer: Three new initiatives were made as a result of this trip. First, I informed President Aquino that $30 million of Title I, P.L. 480 commodity assistance has been allocated to the Philippines. The programmed commodity is to be determined by the Government of the Philippines.

Second, I also, informed President Aquino of an Export Enhancement Program for 500,000 tons of wheat. The Philippines has already purchased 625,000 tons of U.S. wheat under previously announced allocations of this program.

Third, the Philippine Secretary of Agriculture and I signed a Memorandum of Understanding (MOU) on cooperation in agriculture. This signing was followed by a meeting of the joint working group which developed a 12-18 month plan of work under the MOU. The Philippine Secretary praised the MOU and sees it as a means for obtaining U.S. expertise in several fields of agriculture. This MOU is another example of the close ties we have with the Philippines.

In addition to the above, I held discussions with respect to interest in an Agricultural Trade and Aid Mission. By offering specially designed combinations of U.S. trade and food assistance activities, the goal of such Missions is to develop customers for U.S. agriculture. The Philippines and Indonesia expressed interest in a Trade and Aid Mission. We will be having follow-up discussions with these countries in this regard.

P.L. 480 REDUCTION

Question: Why is the Administration requesting a lowered program level for P.L. 480?

Answer: In developing a P.L. 480 budget request, it is always difficult to predict exactly what food aid needs will be the following year. For FY 1989, we are proposing a P.L. 480 program level which we believe will be adequate for the United States to respond to overseas food aid requirements, while meeting the various statutory objectives of the program. Projections recently made by the Economic Research Service indicate substantially reduced needs next year, based on a projected recovery in production in both Asia and sub-Saharan Africa. It should also be noted that if conditions and needs warrant it, we can employ additional authorities, such as the Food Security Wheat Reserve, to help meet whatever emergency conditions may arise next year.

Question: Has this not been a very successful program for promoting our exports as well as for reducing our surplus stocks?

Answer: Most people would appear to agree that P.L. 480 has made a significant contribution to the development of important commercial markets overseas, and during its early years, was useful for reducing surplus U.S. commodity stocks. However, since the early 1970s when the level of U.S. commercial agricultural exports began its substantial growth, the percentage of total annual U.S. agricultural commodities exported through P.L. 480 has steadily declined. Under these circumstances P.L. 480 has become less important as a surplus disposal mechanism, but it remains an important contributor to long-term market development.

FOREIGN TRADE ZONES

Question: Mr. Secretary, except for five Foreign Trade Zones (FTZ's) "grandfathered in" back in late 1984 and a couple others approved last year with special limitations, I understand that the Department of Agriculture has consistently opposed approval of applications for new Zones or sub-Zones involving sugar-containing product operations. It is the position of the Department, as I understand it, that the establishment of such operations would legitimize large scale displacement of domestically produced sugar and undermine the sugar program mandated by Congress. Accordingly, the Foreign Trade Zones Board has been responsive to the views of USDA and has denied all such application.

There are now pending, according to information provided me, at least three applications for Zone or sub-Zone operations involving sugar-containing products. One of these applications pending (from General Foods) states that the company wishes to "use zone procedures to avoid quota restrictions on foreign sugar." Would you advise the Committee as to the position of the Department on the pending future applications to establish FTZ's for sugar operations?

Answer: The Department of Agriculture continues to oppose approval of any application to establish a foreign trade zone operation for purposes of producing sugar-containing products for import into the United States. We also oppose applications by companies to gain foreign trade zone status for the purpose of exporting sugar-containing products if such companies are also licensed under our quota exempt program which allows them access to world price sugar provided that the sugar is subsequently exported in sugar-containing products.

SUGAR PROGRAM

Question: Mr. Secretary, back in September, 1986, you made an excellent speech before Harvard University's 350th Business School Symposia in which you described the European Community's practice of dumping subsidized sugar on the world market as "predatory" and "downright immoral." You acknowledged that, in your view, the U.S. sugar program is "far from ideal, but, you added,"...it is difficult to revise our program as long as European dumping continues."

On March 25, 1987, however, you transmitted to the Congress a proposal entitled, "The Sugar Program Improvements Act of 1987," which would have reduced the loan rate to domestic sugar producers -- thus destroying the value of the program to them -- and cost the taxpayers some $1.5 billion.

The Fiscal Year 1989 budget message contains a recommedation for cutting the loan rate for domestic sugar producers and, thereby, rendering the program ineffective. Mr. Secretary, is the European

Community still dumping sugar on the world market in a manner you described as "predatory" and "downright immoral" some 18 months ago?

Answer: We still contend that the European Community has acted in a predatory manner on the world sugar market, causing depressed world market prices and reduced export earnings for sugar exporting countries.

Question: If we give in to those "predatory" trade practices, and sacrifice our domestic sugar producing industry, what countries will be the main benefactors?

Answer: We do not intend to give in to such trade practices and have no intention of sacrificing our domestic sugar producing industry.

ADMINISTRATION'S PLANS TO "ADJUST" SUGAR PROGRAM AS REFERRED TO IN BUDGET MESSAGE

Question: Mr. Secretary, in the budget message, the President sent to the Congress February 18, it states, "The current price support program for the sugar industry poses significant problems in the areas of trade policy, foreign policy and agricultural policy."

I don't want to reopen the debate on the sugar program as regards "agricultural policy," except to note that it was approved as part of the 1985 Farm Bill by a majority of both Republicans and Democrats in the House and in the Senate.

As regards to trade policy, the budget message notes "the quota system runs counter to a free trade policy..." As you may be aware, Mr. Secretary, domestic sugar producer spokesmen have notified Special Trade Representative Yeutter that they support the Administration's goal of total and complete dismantling of all subsidies and barriers affecting international sugar trade on a global basis as part of the current round of GATT negotiations.

Ambassador Yeutter responded in a letter dated February 4, 1988 (a copy of the letter follows) stating: We will make no concessions in our own agricultural programs until and unless the EC and our other major trading partners begin to get their own houses in order in this area. Would it not appear, Mr. Secretary, that what's being proposed in the way of unilaterally dismantling our own sugar program takes a bargaining chip away from our GATT negotiators and forces American producers to compete with the national treasuries of other sugar producing countries?

Answer: It is our position that any action we may take to liberalize our domestic price support programs is contingent upon similar actions being taken by our trading partner. However, in the case of sugar we have long contended that existing price support legislation has caused numerous market distortions and adverse consequences for those involved in the domestic U.S. sweetener market. For this reason, regardless of what happens in the Uruguay Round of multilateral trade negotiations, we will continue to seek avenues to amend existing legislation and make the sugar program more market-oriented and rational.

LETTER FROM CLAYTON YEUTTER, SPECIAL TRADE REPRESENTATIVE, EXECUTIVE OFFICE OF THE PRESIDENT

February 4, 1988

Mr. E. Raymond Stanhope
Staley Continental
1735 Eye Street, NW
Suite 716
Washington, DC 20006

Dear Mr. Stanhope:

My apologies for not having followed up sooner on the request of the U.S. Sweetener Producers Group that I reactivate the Section 301 case on the sugar policies of the European Community (EC).

I fully share your frustration with the export subsidy programs of the European Community, and particularly with the adverse impact those programs have on the global market for agricultural commodities such as sugar.

We ought to do everything we can to achieve major reforms in agricultural trade generally, including sugar, over the next two or three years. If I felt that "reactivation" of the Section 301 case on sugar would be helpful in that regard, I would reactivate it. But I'm not persuaded that it would be helpful, and I'm concerned that it might actually be harmful.

If we were to push forward with the Section 301 case, we would be obligated by law to take that dispute to the GATT. The outcome would be questionable.

What we must do is attempt to accelerate the Uruguay Round negotiations in agriculture, particularly during this year. We will have a "mid-term review" of the Uruguay Round later this year and it is possible that some or all of the agricultural issues could be encompassed in that review. In other words, if we could obtain a negotiated result in agriculture by the time of that ministerial meeting, that result could be approved by the ministers, and subsequently, by the relevant governments. So it is conceivable that agreement on production and trade reform in sugar and other products could occur as early as the end of this year, and that sugar could receive priority phase-in treatment.

As you know, the EC tabled its own agricultural negotiating proposal in Geneva on October 27. That proposal contains a provision which indicates at least some willingness on the part of the EC to confront the sugar problem at an early date. We will know more about the EC's specific intent as the negotiations unfold. We obviously should take advantage of any negotiating opportunities that may arise.

We will make no concessions in our own agricultural programs until and unless the EC and our other major trading partners begin to get their own houses in order in this area. If we can succeed in moving our GATT partners toward a truly open market in sugar, we believe the U.S. producers will be much better off than they are today with a costly program and shrinking market.

In summary, we believe this is the proper way to proceed during the coming year. However, we'll reappraise the situation as the year unfolds, and we'll be pleased to discuss the matter with you at any time. We very much appreciate your excellent cooperation and we'll need your strong support in whatever strategic and tactical plan we undertake.

Sincerely,

Clayton Yeutter

Clayton Yeutter

EXPORT ENHANCEMENT PROGRAM

Question: Please provide the Committee with the activity under the Export Enhancement Program for Fiscal Year 1987 and the estimated activity for Fiscal Year 1988.

Answer: Export sales under the EEP during FY 1987 totaled $1.7 billion. Through mid-February, EEP sales activity during FY 1988 totaled $1.4 billion.

For the remainder of FY 1988, the Department remains committed to continue the EEP as it is presently operating. No predetermined level of program activity for all of FY 1988 has been established. Rather, final programming results for FY 1988 will be determined by the number of initiatives which are developed to target U.S. commodities in response to the subsidizing practices of foreign competitors. These results will depend on domestic and global market conditions and price trends.

Question: What is assumed for EEP activity in 1989?

Answer: The FY 1989 budget assumes a continuation of EEP on the same basis as it is presently operating. As in the case of FY 1988, no predetermined level of program activity has been established for FY 1989. This will be determined by market conditions, price trends, and the subsidy practices of our competitors.

Question: I understand that you have recently suspended EEP activity for barley. When did you impose a suspension and what are your reasons for it?

Answer: EEP activity for barley has not been suspended, although it has slowed down from a year ago. Sales and authorizations for Saudi Arabia are down, but sales to other destinations are up considerably from a year ago. The reduced level of total activity this year, and the decline especially for Saudi Arabia, is related to the supply and market situation. At times this past year, increases in the EEP bonus levels appeared to be generating increases in our domestic prices. When this starts to happen, the subsidy can no longer achieve its purpose of bringing down the price for export. We also began to see an increase in barley imports from Canada, and we were concerned that this would become a serious problem if our increased exports merely resulted in increased imports. The reason we have continued with several smaller markets, but have not continued as actively with Saudi Arabia, is that the Saudi Arabia program is much larger and its possible negative effects would have been larger. We have no intention of suspending barley EEP, but we will continue to watch it closely for the aforementioned reasons.

Question: What are the current barley stocks on hand?

Answer: The latest reading we have is that U.S. barley stocks in all positions as of February 1, 1988 were estimated unofficially to have totaled 478 million bushels. The average monthly domestic and export disappearance amounts to about 11 million bushels; therefore, the balance on hand as of March 1 will be on the order of 434 million bushels.

Question: What level of barley stocks do you feel is necessary to maintain, and what are your reasons?

Answer: We have no particular target or minimum level of stocks to be maintained. The market is the best judge as to the level of barley stocks needed. Many things are involved. such as whether demand is increasing, whether the coming year's crop will be smaller, and whether there are surpluses of other feed grains.

AGRICULTURAL TRADE

Question: The Administration's budget documents cite the positive agricultural trade balance of $7.3 billion in 1987. No one would argue that this progress is encouraging for the American farmer. To what would you attribute the increase in agricultural exports?

Answer: Several factors can be cited as contributing to the recent surge in agricultural export activity. The new, more market-oriented farm policy implemented with the passage of the Food Security Act of 1985 has certainly played a major role. More competitive prices, combined with the various export programs the Department is implementing, are allowing U.S. exporters to once again sell in world markets with competively priced U.S. farm products.

Another factor that has bostered agricultural exports is the depreciation of the U.S. dollar against a number of foreign currencies such as the German Mark and the Japanese Yen. The lower dollar has reduced the purchase price of U.S. commodities in many countries, thus, making our products a more attractive buy to foreign importers.

Crops affected by adverse weather in several major exporting and importing countries have also increased our opportunities, especially for 1988. Examples are the Soviet Union, India and Thailand. Poor harvesting weather reduced the quality of the Soviet wheat harvest and the failed monsoon of 1987 in parts of South Asia greatly reduced crop production. Among the hardest hit were India and Thailand.

Question: If many of the enhancement programs established by the 1985 Farm Bill are attributing to this success, why would the Administration's budget not include more funding for FAS, the agency responsible for the management of our agricultural trade program?

Answer: This Administration has been very supportive of FAS and its work. The agency's annual level of spending has increased substantially from $54 million in FY 1981 to a projected $89 million in FY 1989. Between FY 1987 and FY 1989 alone, FAS's annual program level is projected to increase by $6 million. The agency's authorized level of staffing has also been increased.

There is no question that the programs FAS administers, combined with more competitive U.S. prices and downward adjustments in the value of the dollar, have contributed to our improved export performance. The budget request for FAS in FY 1989 is considered adequate to ensure that these programs will continue to be carried out in an effective manner.

FEDERAL CROP INSURANCE

Question: The Administration's budget does not recommend the privatization of Federal Crop Insurance for the first time in several years. Why has the Administration made this policy shift?

Answer: The decision not to emphasize the legislative package which was submitted at the beginning of the 100th Congress, recognizes that the energies of the Federal Crop Insurance Corporation (FCIC) can be more productively directed to stabilizing prior program initiatives at this time. The Congress made very clear its reliance on crop insurance as the preferred form of producer risk management in the passage of the Crop Insurance Amendments of 1980, and the 1981 and 1985 Farm Bills. While advantageous in some ways, we do not believe that actions that might affect producer rates would be appropriate at the present time.

While the Administration has not changed its view that, ultimately, the crop insurance program would most appropriately be delivered, as is other business insurance, through the private sector, we recognize that it is necessary to direct the energies of the FCIC and the USDA to assuring the soundness of the program prior to any serious consideration of withdrawing from primary underwriting by the Federal government.

Question: The new manager of the FCIC, Mr. Marshall, will have a significant task in meeting the various objectives of the crop insurance program to increase covered acreage and, at the same time, reducing mismanagement, over payments, and fraud found in the program. Do you believe that real progress can be made in the crop insurance program this year?

Answer: We are confident that the FCIC's efforts to aggressively motivate its sales and service contractors (Master Marketers) and reinsured companies to utilize the emphasis which the Congress is placing on the program will result in increased participation. The increasing realization on the part of producers that crop insurance is the government's safety net is demonstrated by the fact that, even with decreasing acreage due to farm programs, FCIC reports marginal increases in both numbers of contracts and acreage protected during crop year 1987.

The emphasis on management controls which Mr. John Marshall, the new Manager of FCIC, will bring, along with the very sound progress that has been made in improving program operation and controls, will work together to assure concerns which have been expressed by the Congress.

Question: What goals have you and Mr. Marshall set to accomplish over short-term and long-term?

Answer: A primary short-term goal is to establish within the FCIC a sound and stable management structure to respond to criticisms of the management and decisionmaking process of the organization. While we feel that meeting expansion priorities as successfully as they did indicates the soundness of past leadership, we also recognize the need for more structure to meet the demands for quality control and operational integrity for the long term. We are confident that we can establish appropriate management systems to meet both the adminstrative goals that the Congress has emphasized, and also the need for ongoing soundness in program operations.

The long-term goals are simply to see the fruition of the Congressional mandate of a universally available crop insurance product for all principal crops in major growing areas. The achievement of this goal will relieve the Congress of the burden of ad hoc disaster programs, assure greater actuarial integrity for the program through shared risk, and realize the vision of an American agricultural enterprise which recognizes the need to assume the responsibility for assessing individual vulnerability and exercising appropriate judgements on risk management.

FOOD SAFETY INSPECTION

Question: The Food Safety and Inspection Service is slated for an increase of $13.7 million in 1989. How many more additional inspectors would be hired?

Answer: The Agency requests no increase in its staff-year ceiling for 1989; it will reassign its present ceiling to meet changing needs. In fiscal 1989, the Agency will increase staffing for Slaughter Inspection by 109, for Import Inspection by seven, and for Laboratory Services by six. The continuing implementation of Discretionary Inspection in Processing Operations will, however, result in staff reductions sufficient to cover all increased needs in other programs.

Question: What advantages will the relocation of the Agency's Training Center from Fort Worth to Texas A&M University bring?

Answer: Texas A&M is a university with an established school of veterinary science and a curriculum in food technology and food science. The faculty, courses of study, and facilities offered by the university will notably improve the quality of training that the Agency can offer its inspectors and signficantly contribute toward placing inspection on a more objective, scientific basis.

Question: What will be the major priorities of the Food Safety and Inspection Service?

Answer: The Food Safety and Inspection Service will continue to modernize meat and poultry inspection and redirect the program on a more scientific basis. The Agency will work to more thoroughly base inspection on the concept of Hazard Analysis and Critical Control Point (HACCP). This means that the inspection process must be reviewed to isolate those factors in meat and poultry products which are actual threats to public health, and that inspection must identify and focus upon those points in the slaughter, processing, and handling of products where threats to food safety can be controlled before they arise. In fact, the Agency has been moving in this direction for some years: since the late seventies the Agency has promoted the adoption of total quality control in processing plants, and since the mid-eighties has extended the idea to carcass quality in slaughter plants. At this time, FSIS is running tests which will lead to the application of HACCP to microbial control in poultry slaughtering plants. The approach also means that the regulated industry must share the responsibility for accurate control.

The reorientation of meat and poultry inspection on a more scientific basis requires a more technically-trained workforce and demands more of the Agency's informational resources. Accordingly, the Agency's 1989 proposals include improvements in the training of its workforce, and continuation of its plans for revising its information systems.

Consistent with the HACCP concept, the Agency will bring processing inspection under the flexible scheduling authorized by Congress in 1986, inspecting the best-managed plants less frequently and increasing its inspection of process plants and installing that approach nationwide late in 1987. The approach requires an analysis of plant processes and concentrates inspector attention on the points where processing deviations can cause finished products to fall below standards.

The Agency's proposals for 1989 include an initiative for improved control over residues in two ways. FSIS will increase by tenfold its monitoring of six selected compound-species pairs in order to gain a clearer picture of nationwide residue distributions and concentrations for these compounds. The Agency will also increase its use of immediate in-plant testing from about 220,000 annually to over 600,000. One of these in-plant programs will be directed to the persistent problem of sulfonamide residues in swine. Together with forthcoming regulatory change requiring traceback of swine to previous owners, the program may become a prototype of effective, low-cost residue control.

FSIS will also strengthen its programs for control of microbial hazards in food. The new Advisory Committee on Microbiological Criteria will give USDA, together with FDA, a blueprint for coordinating federal efforts in this area and a set of goals for the reduction of food-borne pathaogens. FSIS plans for 1989 include funding for the development of rapid tests that can be used in-plant for the detection of harmful microorganisms.

Question: When all 18 members of the National Advisory Committee on Microbiological Criteria are selected, when do you anticipate that their agenda will be published and when will we be able to review their assessments?

Answer: The Committee's first meeting will be April 5-6, 1988. At that meeting, the Committee will lay out their priorities and assign groups to investigate particular issues. Beyond that, I cannot say when they will have recommendations for review, although the Committee knows that we and FDA want them to be expeditious.

INVESTIGATIONS

Question: In FY 1987, Congress enacted a supplemental appropriation of $10 million to carry out investigations of changes needed in the farm program in order to restore the American farm economy. What have you done with that money and how are you proceeding with the investigation?

Answer: The three investigations mandated in the Supplemental Appropriations Act of 1987 were conducted by the Economic Research Service of USDA. A report discussing the results will be transmitted to the Congress shortly.

Question: How much money has been spent to date?

Answer: This was an annual appropriation and $350,000 was obligated in FY 1987 to fund the investigations.

Question: What results do you have so far?

Answer: Results of the investigations show that producers generally have indicated less than enthusiastic support for mandatory controls. The effects of mandatory controls depend on numerous program implementation details. However, any mandatory control program would reduce market efficiency, expand the Government's role in agriculture, and require changes in a wide range of statutes and USDA rules and regulations.

Question: When do you expect to complete your investigations?

Answer: The investigations have been completed. A report discussing the results will be transmitted to the Congress shortly.

STAFFING

Question: I noted that a recent Congressional Budget Office report indicates that the workforce at the Department of Agriculture was reduced by 17 percent over the last 10 years. To what do you attribute this decline in personnel?

Answer: During the 1980-87 period, employment in the Department of Agriculture was reduced by over 22,000 staff years, or about 18 percent. Essentially, it has been an effort on the part of many of our agencies to get their job done with fewer perople. In some cases, this effort has been aided by new technology. In the case of the Forest Service, our largest employer, the use of the volunteer program has helped a great deal.

Question: Have certain agencies been harder hit by this decline than others?

Answer: It has been necessary to actually increase employment in some areas such as the Farmers Home Administration (+8%) and the Agricultural Stabilization and Conservation Service (+6%). The largest reductions have been in the Federal Grain Inspection Service (-59%), the Food and Nutrition Service (-32%), the Forest Service (-29%), the Economic Research Service (-22%) and the Federal Crop Insurance Corporation (-21%).

Question: Please provide a table for those ten years, showing the personnel level for each year.

Answer: The information follows:

UNITED STATES DEPARTMENT OF AGRICULTURE

Staff Years
(Adjusted for Comparability)

Agency	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	Estimated FY 1988	Estimate FY 1989
SCIENCE AND EDUCATION										
Agricultural Research Service	8,688	8,564	8,394	8,335	8,108	8,112	8,017	8,128	8,147	8,147
Cooperative State Research Service ..	137	147	146	130	128	136	148	150	150	150
Extension Service	177	211	191	176	172	174	179	173	173	173
National Agricultural Library	193	197	191	171	153	160	177	176	190	190
INTERNATIONAL AFFAIRS AND COMMODITY PROGRAMS										
Agricultural Stabilization and Conservation Service................	2,971	2,773	2,650	2,772	2,779	2,816	2,936	3,169	3,288	3,144
Foreign Agricultural Service	877	866	851	818	812	826	803	804	820	820
Office of International Cooperation and Development....................	209	201	209	205	195	200	215	218	192	187
NATURAL RESOURCES AND ENVIRONMENT										
Forest Service	52,030	45,424	43,180	41,850	40,501	39,185	36,918	36,744	36,744	37,000
Soil Conservation Service	15,167	14,764	14,028	14,156	13,959	13,612	12,894	12,395	14,177	12,395
SMALL COMMUNITY AND RURAL DEVELOPMENT										
Farmers Home Administration	11,342	11,910	10,843	11,194	12,301	12,118	12,133	12,289	12,675	11,700
Rural Electrification Administration	736	708	680	653	626	598	566	524	550	500
Office of Rural Development Policy ..	36	35	18	30	31	26	5	- -	- -	- -
Federal Crop Insurance Corporation ..	1,244	1,510	1,624	1,418	1,314	1,196	1,095	979	905	865
FOOD AND CONSUMER SERVICES										
Food and Nutrition Service	2,751	2,640	2,466	2,335	2,220	2,171	1,995	1,879	1,879	1,820
Human Nutrition Information Service .	79	82	71	78	73	79	86	90	90	90

MARKETING AND INSPECTION SERVICES										
Federal Grain Inspection Service	1,886	1,786	1,147	939	884	846	779	768	768	768
Animal and Plant Health Inspection Service	5,608	5,222	5,266	4,850	4,763	4,812	5,066	5,204	5,204	5,100
Food Safety and Inspection Service ..	10,004	9,749	9,605	9,612	9,580	9,719	9,292	9,353	9,400	9,400
Agricultural Cooperative Service	87	86	88	76	69	65	63	63	63	45
Agricultural Marketing Service	4,618	4,439	4,277	4,167	4,176	4,091	4,054	3,961	3,961	3,900
Office of Transportation	45	47	43	44	43	46	41	35	35	20
Packers and Stockyards Administration	263	237	185	183	194	187	183	187	187	187
ECONOMICS										
Economic Research Service	1,039	993	946	903	876	866	846	813	840	860
National Agricultural Statistics Service	1,305	1,248	1,178	1,142	1,154	1,125	1,080	1,059	1,059	1,049
World Agricultural Outlook Board	23	27	28	28	29	29	26	26	30	31
ADMINISTRATION										
Office of the Secretary	106	101	91	85	95	96	89	75	75	85
Departmental Administration	1,996	1,983	1,995	1,923	1,847	1,909	1,913	1,948	1,948	2,000
Office of Budger and Program Analysis	93	92	83	79	78	76	71	68	78	78
Office of Governmental and Public Affairs	193	184	177	171	167	155	156	151	151	156
Office of the Inspector General	927	889	861	886	879	851	820	818	818	850
Office of the General Counsel	355	343	341	348	377	371	347	327	360	360
TOTAL, USDA	125,185	117,440	111,853	109,773	108,598	106,665	102,997	102,579	104,962	102,045

FOOD AND NUTRITION PROGRAMS

Question: The Administration's budget would operate many of the federal food assistance programs without significant change in law. The supplemental feeding programs, however, would be merged into one account, resulting in a combined appropriation of $1.9 billion for both WIC and the Commodity Supplemental Food Program. Notably, participation among the non-elderly would be allowed to reach 3.8 million per month; yet, CSFP now serves about 80,000 seniors per month. In light of the assertion that a combined supplemental feeding program account would be allocated to maximize participation of women, infants, and children, how would the elderly now served be accommodated?

Answer: Existing elderly participation in CSFP would not be affected by the combining of the WIC and CSFP accounts. The proposal to combine the accounts contains language to preserve the level of elderly participation funded in both the new and old sites from the FY 1988 appropriation. This proposal limits growth in the elderly portion of the program, but does not affect existing participation.

Question: What is the policy rationale for combining the Supplemental Feeding Programs?

Answer: In combining the Supplemental Feeding Programs, our goal is to offer States the opportunity to provide important services to more women, infants, and children. Both WIC and CSFP serve similar target population groups: pregnant, breastfeeding and postpartum women, infants, and children. However, the cost structure and services provided under these two programs are different. The cost of an average food package in WIC is estimated to be $33.58 in FY 1988, while the average food package in CSFP for non-elderly is estimated to be $16.69 (not including bonus foods) in FY 1988.

We think that the States should have the flexibility to allocate caseload between these two programs and to choose appropriate benefits and services to be provided to their target population. For example, a State with a combined appropriation of $37 million for Supplemental Feeding Programs could provide monthly benefits to 70,000 participants in the WIC Program or 170,000 participants in CSFP. (These numbers are for average participation and do not include the value of bonus foods in CSFP.) This is consistent with existing policy directives which encourage State level decisionmaking and autonomy in grant programs.

Moreover, the States may be able to provide different configurations of benefits more appropriate to different categories of the target population. We feel that services provided to the WIC and CSFP eligible population can be improved by offering each State greater flexibility in assigning caseload between these two programs.

Question: Does the Department wish to discontinue the distribution of commodities under CSFP, in favor of the voucher system used by WIC? Or is the Department seeking broader distribution of commodities over extending the use of vouchers?

Answer: The proposal to combine the WIC and CSFP accounts does not affect the fundamental nature of each program's food distribution system. Each program will retain the structure of benefits and services it provides.

Combining the accounts permits the State to allocate eligible caseload of women, infants, and children between the two programs and to choose the appropriate structure of services to its target population.

This proposal will not affect the relative importance of the distribution of commodities or the use of vouchers. Its goal is to expand services for the same dollar level. States would be required to include a proposal of transfers between the two programs in their submission of the State Plan. These plans are subject to approval by FNS.

Question: Would the combined Supplemental Feeding Programs be phased in? If so, over what period of time? Would costs increase or decrease through this joint program?

Answer: The combined Supplemental Feeding Programs would not be phased in, but would be effective immediately in FY 1989. States could submit State Plan revisions for FY 1989 to reallocate caseload between the two programs. These plan revisions would be subject to FNS approval.

Overall program costs for these programs would not be affected by this proposal. If food costs are lower (from allocating caseload to CSFP instead of WIC), the States will be able to expand service to eligible women, infants, and children. The program rules to be developed will permit transferring funds only if it results in increased participation of the target population.

TEFAP

Question: The budget proposal for fiscal year 1989 recommends that funding for TEFAP be terminated. Understanding that stocks of dairy surpluses are insufficient to guarantee distibutions even throughout 1988, do you believe that there will be no other commodities available that would warrant administrative funding for TEFAP in 1989?

Answer: It is difficult to project commodity inventory levels. However, since State and local authorities administered the program prior to the $50 million annual appropriation, it is our opinion that the program would continue without Federal funding. Therefore, we do not support administrative funding for TEFAP in 1989 regardless of the availability of surplus commodities.

Question: If there continues to be a need for emergency food assistance, how does the Department envision that such demand will be met without TEFAP?

Answer: The Department is requesting reauthorization of TEFAP and will continue to distribute available commodities through the program. We are not, however, requesting administrative funding. USDA also has other existing legislative authority under which surplus commodities can be made available for distribution to the needy through food banks or soup kitchens, for example. Through the provisions for expedited service, the Food Stamp Program is also available to meet the need for emergency food assistance.

EXTERNAL COMBUSTION ENGINE PROJECT

Question: In January of 1985, the Agricultural Research Service published a study addressing the use of solid fuel for irrigation pumping. The system addressed was a Stirling Engine System. Could you please summarize for the Committee the benefits described by this study? Specifically, what power size is needed for significant market penetration? What economic benefits could farmers expect from commercial availability of such systems? What fuels could be used?

Answer: The Agricultural Research Service completed the study "The Stirling Engine: It Markets Potential for Irrigation Pumping and Other Irrigation Energy-Conservation Concepts," January 29, 1985. The report concluded that for Stirling engines to compete in the irrigation pumping market the engines would have to be in the 75 to 100+ brake horsepower (bhp) range. These engines would need to have an expected life of at least 20,000 hours for powering 75 bhp pumps and at least 15,000 hours for 100 bhp units if they are to be economically competitive with diesel and electric-powered units at fuel prices. Since that time engery prices have declined by one-third. Accordingly, the cost of coal or biomass fuel must be lower for these engines to be competitive with the expected life identified above.

Farmers could be less affected by rising energy costs if they were able to utilize indigenous coal or other fuels such as biomass.

The study focused primarily on burning coal in a fluidized bed combustor. However, other fuels such as corn stover, wheat straw, wood chips and pellets, and animal waste could be used to power external combustion engines.

Question: Since the study was published, USDA published a Request for Proposals to address External Combustion Engine Research and Development. How many proposals were received in response to that request?

Answer: The Department received 23 proposals from 21 different applicants.

Question: Could you please provide the Committee with a list of the responding organizations?

Answer: The names, addresses, and project titles follow:

EXTERNAL COMBUSTION ENGINE PROPOSALS RECEIVED, FISCAL YEAR 1987

1. Dr. Kenneth L. Krolski
President
P.O. Box 142
Kentron, Inc.
Cedarburg, WI 53012
Special Research Grants Program
External Combustion Engines
Ignition System for External Combustion Engine

8702826 PROG-CODE: CC
$ FOR MONTHS
Private Profit
HUMAN SUBJECT? No
DNA? No

2. Christopher V. Michaels
President
1850 N. Cherokee Ave, Suite 11
MONTEX Int. Corp.
Los Angeles, CA 90028
Development of External Combustion Engines
External Combustion Engines
Novel Generation of Twenty-First Century Carnot Cycle External Combustion Engines

8702837 PROG-CODE: CC
$287,500 FOR 12 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

3. Floyd L. Ramp
President
3948 Humphrey Road
Ramp Research
Richfield, OH 44286
Development of External Combustion Engines
External Combustion Engines
Dual Fluid Turbine

8702838 PROG-CODE: CC
$122,000 FOR 12 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

4. William C. Pfefferle
Project Director
17 West Haycock Point Road
Precision Combustion, Inc.
Branford, CT 06405
Development of External Combustion Engines
External Combustion Engines
Efficient Catalytic Combustor Farm Power System Burning Biomass-Derived Fuels

8702839 PROG-CODE: CC
$197,919 FOR 24 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

5. Mark S. Rice
President
7120 Piney Branch Road, N.W.
Maritime Applied Physics Corporation
Washington, DC 20012
Development of External Combustion Engines
External Combustion Engines
Biomass-Fueled, Rankine-Cycle Reciprocating Engine for Agricultural Use

8702840 PROG-CODE: CC
$133,236 FOR 20 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

6. Edward N. Laughlin
President
224 N. Campo
Energy Optics, Inc.
Las Cruces, NM 88001
Development of External Combustion Engines
External Combustion Engines
Pool Fire Fluidized-Bed Combustor for Power Production From Agricultural By-Products

8702841 PROG-CODE: CC
$240,000 FOR 18 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

7. Harold M. Keener
Dept. of Agricultural Engineering
Ohio Agricultural Res. & Dev. Center
Ohio State Univ.
Wooster, OH 44691
Development of External Combustion Engines
External Combustion Engines
AFBC-EC Engine System for Biomass Power

8702842 PROG-CODE: CC
$138,223 FOR 24 MONTHS
SAES
HUMAN SUBJECT? No
DNA? No

8. Thomas W. Oakes
Project Director
10303 Centinella Dr.
FUZETRON, Inc.
La Mesa, CA 92041
Development of External Combustion Engines
External Combustion Engines
Electomagnetic Energy for Electric Power Generation Not Using Petroleum

8702843 PROG-CODE: CC
$100,000 FOR 12 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

9. Thomas W. Oakes
Project Director
10303 Centinella Dr.
FUZETRON, Inc.
La Mesa, CA 92041
Development of External Combustion Engines
External Combustion Engines
External Combustion Steam-Electric Engine for Agriculture

8702844 PROG-CODE: CC
$100,000 FOR 12 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

10. Thomas W. Oakes
Project Director
10303 Centinella Dr.
FUZETRON, Inc.
La Mesa, CA 92041
Development of External Combustion Engines
External Combustion Engines
External Combustion Engine Using Agriculture Products As Fuel

8702845 PROG-CODE: CC
$100,000 FOR 12 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

11. William H. Houtman
Project Director
7101 Jackson Road
Stirling Power Systems, Inc.
Ann Arbor, MI 48103
Development of External Combustion Engines
External Combustion Engines
Biomass Fueled Stirling Engine Powered Generator System Demonstration

8702846 PROG-CODE: CC
$484,783 FOR 18 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

12. David G.S. Greene
Department of Physics

Towson State Univ.
Towson, MD 21204
Development of External Combustion Engines
External Combustion Engines
Farm & Forest Fuels Run 4-SQUARE Machinery: Compressors, Pumps, Vacuums, Motors

8702847 PROG-CODE: CC
$158,916 FOR 12 MONTHS
Public Univ/College
HUMAN SUBJECT? No
DNA? No

13. James T. Mikula
Director of Corporate Engineering
Highway 275
Valmont Industries, Inc.
Valley, NE 68064
Development of External Combustion Engines
External Combustion Engines
A Biomass Fueled Stationary Power Unit for Agricultural Irrigation

8702848 PROG-CODE: CC
$484,923 FOR 23 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

14. Dennis K. Clark

15880 SE Cielo Court
Clackamas, OR 97015
Development of External Combustion Engines
External Combustion Engines
Small Farm External Combustion Steam Cogeneration Utilizing Methane

8702849 PROG-CODE: CC
$147,600 FOR 60 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

15. John A. Cozby
President
P.O. Box 700
Cozby Enterprises, Inc.
Anaconda, MT 59711
Development of External Combustion Engines
External Combustion Engines
Advanced Rankine Cycle Unitary Steam Engine With Solid Fuel Combustor

8702850 PROG-CODE: CC
$250,550 FOR 24 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

16. Edgar Carnegie
Dept. of Agricultural Engineering
San Luis Obispo County
California Polytechnic State Univ. Foundation
San Luis Obispo, CA 93407
Development of External Combustion Engines
External Combustion Engines
Biomass Fuel Agricultural Power Plant

8702851 PROG-CODE: CC
$217,685 FOR 36 MONTHS
Public Univ./College
HUMAN SUBJECT? No
DNA? No

17. Tchong C. Mao
Project Director
P.O. Box 590243
T & Ts Co.
Houston, TX 77259
Development of External Combustion Engines
External Combustion Engines
The Design and Development of a Buoyant Wheel to Compose a Perpetual Engine by Utilizing Buoyant Fuel from Water

8702852 PROG-CODE: CC
$480,000 FOR 60 MONTHS
Private Profit Making
HUMAN SUBJECT? No
DNA? No

18. John E. Minardi
Project Director
300 College Park
Univ. of Dayton
Dayton, OH 45469
Development of External Combustion Engines
External Combustion Engines
High-Efficiency, External-Combustion Engines Using Biomass Fuels

8702853 PROG-CODE: CC
$1,282,278 FOR 60 MONTHS
Private Univ./College
HUMAN SUBJECT? No
DNA? No

19. William E. Larsen
Dept. of Civil/Agricultural Engineering
Gallatin County
Montana State Univ.
Bozeman, MT 59717
Development of External Combustion Engines
External Combustion Engines
Biomass Fueled, External Combustion, Brayton Cycle Engine for Irrigation Pumping

8702854 PROG-CODE: CC
$186,837 FOR 36 MONTHS
Land Grant-1862
HUMAN SUBJECT? No
DNA? No

20. John J. Thomas
Medical Research Institute
3325 West New Haven Avenue
Florida Institute of Technology
Melbourne, FL 32904
Development of External Combustion Engines
External Combustion Engines
Biomass Derived-Angelicalactone as External Combustion Fuel

8702856 PROG-CODE: CC
$370,313 FOR 36 MONTHS
Private Univ/College
HUMAN SUBJECT? No
DNA? No

21. John G. Riley
Department of Agricultural Engineering

Univ. of Maine
Orono, ME 04469
Development of External Combustion Engines
External Combustion Engines
An Open Cycle, Biomass Residue Fueled External Combustion Engine

8702857 PROG-CODE: CC
$119,172 FOR 36 MONTHS
Land Grant-1862
HUMAN SUBJECT? No
DNA? No

22. Robert C. Brown
Dept. of Mechanical Engineering
2020 Me/Esm
Iowa State Univ.
Ames, IA 50011
Development of External Combustion Engines
External Combustion Engines
Pressurized Fluidized Bed Combustor Fired with Slurry for Agricultural Power

8702858 PROG-CODE: CC
$355,078 FOR 36 MONTHS
Land Grant-1862
HUMAN SUBJECT? No
DNA? No

23. Harold J. Schock
Dept. of Mechanical Engineering

Michigan State Univ.
East Lansing, MI 48824
Development of External Combustion Engines
External Combustion Engines
High-Efficiency Stirling Engines for Domestic Farm Power Supply

8702859 PROG-CODE: CC
$2,342,676 FOR 60 MONTHS
Land Grant-1862
HUMAN SUBJECT? No
DNA? No

Question: Will this single effort be enough to bring such systems to commercial reality? Please explain why or why not?

Answer: The Department has funded two applicants -- Valmont Industries, Inc. and the Department of Agricultural Engineering of Ohio State University (proposals number 13 and 7, respectively). These studies of 2-year duration will provide some information on using biomass fuels to operate external combustion engines for stationary agricultural power applications. However, this research effort will not be sufficient to bring the Stirling engine to commercial reality in the United States.

While the Stirling engine was patented in 1816, there has been no commercial development of the engine for a variety of reasons. Consequently, a great deal of testing and development is necessary before all the components in the system have demonstrated the durability essential for dependable, long-term trouble free operation that a farmer expects from an irrigation water pumping system. Specific areas of emphasis where more research is needed for developing a dependable external combustion engine include:

-- sealing of hot gases and lubricants;

-- prevention of cooler tube corrosion;

-- development of methods to insure intergrity of castings and other components;

-- development of automatic control systems; and

-- ultimately, optimization of the various factors influencing performance.

It appears that a number of these areas likely will require several years of effort to achieve the required dependability for commercial adoption.

QUESTIONS SUBMITTED BY SENATOR SASSER

SURFACE AND GROUNDWATER QUALITY

Question: The Economic Research Service of USDA recently released a report entitled Managing Farm Nutrients. This report dealt with the problems of surface and groundwater quality created by agricultural operations. I surmise from the report that the Department of Agriculture is concerned about and plans to address this problem. Could you tell me if you have any immediate plans? I see this as an ongoing problem. What about long range plans to reduce water pollution from agricultural operations?

Answer: The Department of Agriculture is concerned about the effects on surface and groundwater quality created by agricultural operations. We promulgated the USDA Nonpoint Source Water Quality Policy in December 1986 and the USDA Policy for Groundwater Quality in November 1987. Recently, I established a USDA Working Group on Agricultural Chemicals and the Environment to develop and recommend appropriate strategies for implementing these policies and to serve as an interim clearinghouse for all matters relating to agricultural chemicals and the environment. They expect to complete these tasks by summer and we will be reviewing their proposals for the next budget

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QUESTIONS SUBMITTED BY SENATOR BUMPERS

PROGRAM REDUCTIONS

Question: During the White House - Congress summit last year, it was agreed by the Administration, that a reasonable, non-confrontational budget would be submitted for FY 1989. As I look over the USDA portion of the budget request, I notice that you are asking for the same programs to be reduced significantly or eliminated that you have requested every year. Congress, however, always goes back and funds these programs. In this light, how can you claim that your budget request is in the spirit of the summit agreement?

Answer: Because of the summit, this budget does not include a number of proposals which were made in prior years. These include proposals for new user fees, changes in the food assistance programs, changes in the farm price support programs, changes in the method of sharing forest service revenues, and privatization of the crop insurance program. In addition, the budget includes funding for certain conservation and rural development programs which were proposed for termination in prior budgets. Proposals to reduce or reform programs in the areas of housing, REA, research special grants, and some traditional conservation programs are part of the actions recommended by the Administration to live within the discretionary budget totals set by the summit. For these reasons, we believe the President's budget is entirely consistent with the summit agreement.

NAL GRANT

Question: In the FY 1988 Continuing Resolution, $370,000 was appropriated to the National Agricultural Library for a grant to the University of Arkansas Leflar School of Law to set up a National Center for Agricultural Law Research and Information. Officials from the law school have met with officials of the NAL, and everything is ready for the awarding of the grant. However, NAL officials state that they may not now award the grant pending a possible rescission request? Have you requested a rescission of funds for the program? If not, how soon can we get this necessary program off the gound?

Answer: No rescission has been proposed in this area nor do we anticipate such a proposal. USDA agencies, including NAL, have been instructed to carry out their programs in the normal manner. We understand that NAL has provide the law school with information needed to assist them in completing the necessary documentation for requesting the grant. As soon as the paperwork is completed, funds will be made available.

ANIMAL DAMAGE CONTROL

Question: In the 1988 Continuing Resolution, the Animal Damage Control Program of APHIS is instructed to continue research for developing an environmentally safe toxicant or repellent for blackbirds, starlings, and grackles that damage rice and sunflower production. I have learned that ADC intends to only continue research on damage to sunflowers. This is contrary to Congressional intent, and I would like to know how you intend to rectify this situation.

Answer: APHIS is continuing with its ongoing research program to develop environmental safe toxicants and repellents for blackbirds, starlings, and grackles that damage rice as well as sunflowers. The major objective of this program is to provide scientific information for the registration of an effective roost toxicant. APHIS has submitted an experimental use permit application to the Environmental Protection Agency to field test the roost toxicant CPT at field sites in the midsouth as well as northern sunflower growing regions. Although these field tests will not be conducted in rice growing areas, the field tests are aimed at developing a control tool broadly useable for protecting rice, sunflowers, and other crops; and reducing nuisance roost problems. This winter, the agency conducted an Arkansas-based field application of a nontoxic chemical formula which would contain a toxicant during an actual field trial. The purpose was to review methods for evaluating the effectiveness and potential hazard to such control tool.

APHIS is currently testing other control approaches to reduce bird damage to rice. The other approaches include testing a lethal bait in Louisiana which is designed to reduce local bird damage to sprouting rice, and a nontoxic seed coat repellent for rice.

Question: In the 1988 Continuing Resolution, $225,000 was provided to the ADC for aquaculture and rice animal damage control research in the Delta States of Arkansas, Mississippi, and Louisiana. I have learned that the Department intends to channel all these funds into aquaculture research in Mississippi. This, also, is contrary to Congressional intent, and I would like to know how you intend to rectify this.

Answer: APHIS intends to conduct research and operational control activities which benefit all of the Delta States. Of the $225,000, the Agency plans to devote $75,000 to operational bird control programs at aquaculture sites in the Delta, and $150,000 to establish a research station at Mississippi State University. The goal of the research effort will be to develop methods to reduce agriculture damage caused by nuisance animals in Arkansas, Louisiana, and Mississippi. APHIS also plans to devote an additional $100,000 to expand ongoing blackbird research programs in Louisiana and Arkansas in FY 1988.

UNIVERSITY OF ARKANSAS POULTRY ISOLATION UNIT

Question. In the 1988 Continuing Resolution, $500,000 was provided to the University of Arkansas through CSRS for the upgrading of the poultry isolation unit to be located at the University.

University officials have been negotiating with CSRS officials on the possible use of these monies for critical construction needs of the unit. CSRS officials have refused so far. Can you help resolve this situation favorably?

Answer: The FY 1988 appropriation provided $500,000 for a Special Research Grant to upgrade the poultry isolation unit at the University of Arkansas. Special Research Grants are authorized under Section 2(c) of the Act of August 4, 1965, as amended (7 U.S.C. 450i(c). This legislation provides that no grant may be made under this authority "for the planning, repair, rehabilitation, acquisition, or construction of a building or facility." Accordingly, consistent with a grant proposal received from the University of Arkansas and in discussions with College of Agriculture administrators, these funds will be used for the hiring of personnel and purchase of equipment for the isolation unit.

Construction of the facility will be supported by a Cooperative State Research Service (CSRS) Building and Facilities award of $363,750 to the University. This combined funding will permit the development of a state-of-the-art poultry isolation facility at the University which is located in the most densely populated poultry area in the United States. Research will include the use of biotechnology techniques in the development of vaccines for virus diseases affecting poultry.

WATER AND WASTE GRANTS

Question: Knowing of the emphasis by the Department on rural development, how do you justify the reduction of FmHA rural water and waste grants to $75 million, $50 million below the authorized level?

Answer: Preserving the Water and Waste Disposal Grant Program was one of the priorities I established in preparing the Department's budget. Frankly, given the restrictions in meeting budget and deficit targets, it was fortunate that we were able to recommend a funding level of $75 million. Although the funding is less than previous years, we will make better use of the funds by giving increased preference to very low income communities.

QUESTIONS SUBMITTED BY SENATOR COCHRAN

SUGAR RE-EXPORT PROGRAM

Question: Mr. Secretary, in December 1987, the Congress passed and the President signed legislation to create a special import-export program to stimulate additional sugar sales from the Caribbean and the Philippines. This legislation was passed because USDA lacked specific statutory authority to use CCC commodities to implement this program. Can you indicate when USDA will promulgate final regulations to implement this program?

Answer: We are currently in the process of developing, as expeditiously as possible, proposed regulations for this program. When the proposed rule is cleared, it will be published in the Federal Register. It is then subject to a period of public comment. After the comment period, the proposed rule will be redrafted as a final rule, cleared and then published as a final rule.

Question: It has been suggested that Congress should make this program permanent rather than effective for only one year. What would be the Administration's position regarding permanent authority for the re-export program?

Answer: We do not believe it is at all appropriate to continue this precedent whereby the assets of the Commodity Credit Corporation are used to promote exports of foreign produced commodities. We believe the Congress must address the deficiencies of the basic sugar program legislation rather than making permanent a Commodity Credit Corporation subsidy for the countries and sugar refining companies adversely affected by current law.

FARM CREDIT SYSTEM ASSISTANCE BOARD

Question: It is my understanding that USDA will be providing financial assistance to the newly created Farm Credit Assistance Board. Does the budget for USDA include such assistance? Please provide details for the record.

Answer: The Financial Assistance Board is charged under the Agricultural Credit Act of 1987 with determining the financial assistance and administrative streamlining required of troubled Farm Credit insitutions. Funding for assistance allocated by the Board is provided by the Financial Assistance Corporation.

The Corporation obtains funds through issuance of federally guaranteed bonds. Interest on the bonds for the first five years is paid by Treasury for the second five years, half by Treasury, and half by the System, and for the last five years entirely by the System. The 1989 budget requests appropriations to Treasury of $175 million to reimburse the Corporation for estimated interest expenses on bond issued in 1988 and 1989. The request assumes issuance of about $1.5 billion in 1988 and $0.5 billion in 1989.

QUESTIONS SUBMITTED BY SENATOR DOMENICI

COMMODITY SUPPLEMENTAL FOOD PROGRAM (CSFP)

Question: Secretary Lyng, the FY 1988 omnibus Continuing Resolution included statutory language that I proposed requiring appropriations above the level needed to support certain specific caseloads in states operating Commodity Supplemental Food programs in 1987 to be used to fund additional projects for women, infants and children in new states that had applied for funding. Would you please give the Subcommittee a status report on the funding of projects to serve women, infants and children in new states that had applied for CSFP funding?

Answer: During the fiscal year 1988 caseload cycle, six State agencies awaited authorization for a Commodity Supplemental Food Program (CSFP). The six States (New Hampshire, New Mexico, Minnesota, New York, Kansas and Oregon) were approved to operate a CSFP in January 1988.

Question: What amount of the $50 million appropriated will be directed to these new programs in FY 1988?

Answer: The cost of food, allowable administrative reimbursement, and State and local inventory expenses for the total 20,755 caseload slots is estimated to be about $4.8 million.

Questions: Would you please give me the names of the States and the anticipated caseloads of women, infants, and children to be served in new programs in these States in the current fiscal year?

Answer: The six States agencies and their authorized women, infants and children caseload levels are listed below:

State	Authorized Caseload
New Hampshire	2,478
New York	10,068
Minnesota	2,788
New Mexico	1,549
Kansas	2,943
Oregon	929
Total, Caseload Slots for New States	20,755

SUBCOMMITTEE RECESS

Senator BURDICK. This ends today's hearing. The committee would like very much to thank you, Mr. Secretary, for being with us today.

Secretary LYNG. Thank you, Mr. Chairman.

Senator BURDICK. You had quite a workout. Our next hearing will be held next Tuesday, March 1, at 10 a.m., in this same room. At that time, the subcommittee will hear from representatives of the Agricultural Research Service, the Cooperative State Research Service, and the Extension Service. The subcommittee now stands in recess.

[Whereupon, at 12:28 p.m., Tuesday, February 23, the subcommittee was recessed, to reconvene at 10 a.m., Tuesday, March 1.]

AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1989

TUESDAY, MARCH 1, 1988

U.S. Senate,
Subcommittee of the Committee on Appropriations,
Washington, DC.

The subcommittee met at 11:06 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Quentin N. Burdick (chairman) presiding.

Present: Senators Burdick, Sasser, Harkin, Cochran, Kasten, Specter, and Grassley.

DEPARTMENT OF AGRICULTURE

STATEMENT OF DR. ORVILLE G. BENTLEY, ASSISTANT SECRETARY FOR SCIENCE AND EDUCATION

ACCOMPANIED BY:

ROBERT LONG, DEPUTY ASSISTANT SECRETARY, SCIENCE AND EDUCATION

STEPHEN B. DEWHURST, BUDGET OFFICER

Agricultural Research Service

STATEMENT OF DR. TERRY B. KINNEY, JR., ADMINISTRATOR

ACCOMPANIED BY:

MARY E. CARTER, ASSOCIATE ADMINISTRATOR

WILLIAM TALLENT, ASSISTANT ADMINISTRATOR

THOMAS J. ARMY, DEPUTY ADMINISTRATOR

JOHN R. VICTOR, BUDGET OFFICER

INTRODUCTION OF WITNESSES

Senator Burdick. The subcommittee will please come to order. Today, we will continue our hearings on the fiscal year 1989 budget for the Department of Agriculture. Specifically, we will hear today from the representatives of the Agricultural Research Service, the Cooperative State Research Service, and the Extension Service. With us we have Dr. Orville Bentley, Assistant Secretary for Science and Education; Mr. Robert Long, Deputy Assistant Secretary; Dr. Terry Kinney, the Administrator of the Agricultural Research Service; Dr. John Patrick Jordan, Administrator of the Cooperative State Research Service; Dr. Myron Johnsrud, Administrator of the Extension Service; and Mr. Steve Dewhurst, the budget officer for the Department of Agriculture. Welcome to the committee, gentlemen.

OPENING REMARKS

While the budget request for the Agricultural Research Service shows an increase of $20 million in program funds, construction funds are reduced over fiscal year 1988 by $47 million.

The Cooperative State Research Service is characterized by a $49 million cut in its operating budget, and the Extension Service budget proposed by the President calls for a $58 million reduction.

I am pleased that the budget request does reflect some changing priorities in the area of research and extension. For example, a budget request has been submitted for the first time for a special focus on water quality research and management, and the Extension Service budget includes funding for new national priorities which have been established by the extension community.

Nevertheless, I am very concerned about some of the reductions proposed, such as funding for higher education and funding for some of the other special grants under both research and extension.

For example, the Expanded Food and Nutrition Education Program is cut by more than one-half for fiscal year 1989. I will have many questions on the budget, but at this time, I would like to again welcome you to the committee. We look forward to having your testimony. We have your statements, which will be made a part of the record in full. Therefore, if you care to summarize, it would be appreciated.

Senator Kasten, do you have an opening statement?

Senator KASTEN. Mr. Chairman, I don't have a formal opening statement, but I would like simply to welcome Assistant Secretary Bentley and Dr. Kinney and the other witnesses back to our subcommittee, and I look forward to their testimony.

I want to extend a special welcome to Dr. Luis Sequeira, who is the new Chief Scientist of the CSRS Competitive Research Grants Program. Dr. Sequeira has had a long and distinguished career at the University of Wisconsin as a plant pathologist. This is the first time that he appears as part of the team here.

I would note that competitive research grants are especially important to the University of Wisconsin, so Doctor, you are in the right place.

Thank you, Mr. Chairman.

Senator BURDICK. Dr. Bentley.

STATEMENT OF DR. ORVILLE G. BENTLEY

Dr. BENTLEY. Thank you, Mr. Chairman. I thank you for your welcome. My colleagues who are here with me at the table—you have already given their names—we look forward to making a presentation on our 1989 budget and the program proposals for research and extension.

We have carefully constructed the budget to address the more critical issues facing producers today and those that will be with us for the long term. We have built a strong, refocused information dissemination component to assure that the research we produce reaches the end users. Our plans have been shaped through the input of advisory groups, state representatives, commodity and producer organizations, research and extension professionals, and the Congress. Of course, the Budget Summit Agreement is also reflected. I am confident that our proposals will be an important factor in the continuing improvement of the farm sector competitiveness in the world marketplace.

Mr. Chairman, before I address our specific proposals, I would like to take a moment to recognize Dr. Terry Kinney, and to express our most sincere appreciation for the outstanding contributions he has made in the 7 years as Administrator of ARS. As you know, Terry has announced his plans to retire from the federal service this year. He is sitting here beside me at this hearing.

Now, let me address some items in a very broad sense, Mr. Chairman. I would like, then, after I make my statement, to turn to my colleagues in ARS, CSRS, and the ES who are here to amplify some of the remarks.

GROUND WATER QUALITY

The first item that I would like to talk about is ground water quality which is one of the most widely discussed issues in agriculture today. Producers and consumers alike are concerned that certain agricultural chemicals are turning up in nontarget locations. Our proposals address the range of related issues affecting production and the ultimate use of farm products. We are proposing a package of research and extension programs to address the ground water and related pesticide issues. The cornerstone is a $5 million ARS program increase to examine the effects of various farming systems on ground water quality and to develop efficient systems which also protect vital water resources.

A component of the program would concentrate on the development of new pesticide application techniques to better target chemicals to the site of activity. In a related area, we are proposing funds to enhance the National Agricultural Pesticide Impact Assessment Program at the universities and Extension Services. This program provides the best mechanism to gather vital pesticide useage and benefit data as an input to the EPA regulatory process.

FOOD SAFETY AND QUALITY

The next topic is food safety and quality. In addition to the nutrient value of foods, today's health-conscious consumers are focusing on the presence of contaminants in foods. Recent academic studies and press reports have implicated our food production and processing systems in the contamination of foods by bacteria, drug, and pesticide residues. Regulatory agencies, both those in the Department and those outside, will be responsible for setting tolerances for contaminants.

We are proposing a multifaceted approach first to develop production and processing technologies to provide producers with the tools to avoid or minimize contamination. Second, we propose funding to develop new rapid test methods for use by USDA regulatory agencies in detecting residues in meat and dairy products. This comprehensive approach will assure that producers have the means to produce residue-free products and at the same time, regulators have the tools to identify those not in compliance.

Dr. Kinney will be able to provide details on the specific research plans.

UNIVERSITY RESEARCH

Our university cooperators remain an important part of the total agricultural research and technology transfer system. We are proposing continued full funding for the basic Hatch formula, which has supported countless significant research advances in its 100-year history and leverages over five times the federal contribution.

For the first time since 1985, we are proposing funding for selected high priority special grants, including a new proposal to provide startup funding for a National Biological Impact Assessment Program [NBIAP]. This is in connection with the planned research activities that we expect in the area of biotechnology. It is a project to predict and monitor the performance of genetically engineered organisms in the environment and to facilitate the exchange of research information related to agricultural biotechnology. NBIAP will be an important mechanism in assuring the continued environmentally sound development of biotechnology as an increasingly significant factor in American agriculture.

COMPETITIVE GRANTS

Response to our competitive grants program continues to be overwhelming, with only about one out of four scientifically meritorious proposals receiving funding. Research funded through this program has brought about solutions to some of the farmer's most vexing and costly problems, including: The development of the basis for improved models to more effectively predict the timing of fungicide applications; the improvements which will lead to more efficient livestock production systems; and new understandings of the mechanisms associated with nitrogen fixation in certain plants which forms the basis for more efficient crop production.

Mr. Chairman, we have just listed three of these illustrative contributions made from this very fine program. Unfortunately, though, funding for this successful program has declined 15 percent in real terms since 1985. We strongly urge your support for our proposal to provide modest increases for most of the ongoing grant categories and to initiate a new program to examine the effects of stratospheric ozone depletion on major crop and forest systems. Increased ultraviolet light resulting from the observed depletion of high atmospheric ozone will affect agricultural production, and it is important that we begin immediately to understand the interactions and the mechanisms involved.

SCIENCE AND TECHNOLOGY CENTERS

Last year, I presented a proposal for a program of competitive research centers focusing on plant sciences to be jointly funded and operated with the National Science Foundation and the Department of Energy. We originally planned a $10 million program, but actual budgets will accommodate a more modest program of about $5.3 million, of which $2 million will come from the USDA program. We are currently soliciting proposals and plan to award the first grants later this year. The 1989 USDA budget specifically requests $3.4 million to continue this effort in 1989. Mr. Chairman, we are excited about the potential for the significant advances through this approach, given the broad federal participation and the active involvement of the private sector.

INFORMATION DISSEMINATION

Last year, we announced a comprehensive review of the extension programs to focus on identified national priority topics. Mr. Chairman, I was pleased that in your opening remarks, you made reference to that as well as Mr. Kasten's reference to the Competitive Grants Program.

Working closely with Extension leaders and clientele, these broad initiatives have been further refined and refocused. I am especially proud of the proposals we have developed for the Extension Service, which reflect the first stage of funding for the new programs. We are proposing $22 million in new earmarked funds, including a $10 million program to continue to address issues in farm profitability and competitiveness.

All of these funds will require full matching by the recipients, and innovative projects with broader regional and national application will be stressed. I urge your support for this new direction for extension, which will provide that crucial final step of transferring information to users.

RURAL REVITALIZATION

Mr. Chairman, we have all become increasingly concerned with changes in our rural communities. We are supporting the Secretary's commitment to rural revitalization with increases for research, extension, and information dissemination to assist local officials and rural residents in enhancing the quality of life in these areas.

A $2 million increase for research at the 1890 institutions will focus on rural development and small-scale farm needs. Extension and the National Agricultural Library have teamed to support a new information center to be operated by NAL in support of the rural development needs.

Mr. Chairman, this is a brief summary of our budget, and as I have noted, it makes a number of proposals to address current and long-term research and extension needs of agricultural producers and rural residents. We have taken a hard look at our programs and have refocused to emphasize the highest priorities and to strengthen the link between research and extension.

At this time, I will be happy to answer any questions, or whatever you would desire. We can turn to comments from the agency representatives here this morning. Thank you.

PREPARED STATEMENT

Senator BURDICK. Thank you very much. We will hear from a few more witnesses before we turn to the question period.

[The statement follows:]

STATEMENT OF DR. ORVILLE G. BENTLEY

Mr. Chairman and members of the committee, I appreciate this opportunity to present to you our 1989 budget and program proposals for research and extension. We have carefully constructed the budget to address the most critical issues facing producers today and those that will be with us for the long-term. We have built in a strong, refocused information dissemination component to assure that the research we produce reaches the end users. Our plans have been shaped through the input of advisory groups, state representatives, commodity and producer organizations, research and extension professionals, and the Congress. Of course, the budget summit agreement is also reflected. I am confident that our proposals will be an important factor in the continuing improvement of farm sector competitiveness in the world marketplace.

Mr. Chairman, before I address our specific proposals, I would like to take a moment to recognize Dr. Terry Kinney and express our most sincere appreciation for the outstanding contributions he has made in 7 years as Administrator of ARS. As you know, Terry has announced plans to retire from the federal service this year.

GROUND WATER QUALITY

One of the most widely discussed issues in agriculture today is ground water quality. Producers and consumers alike are concerned that certain agricultural chemicals are turning up in nontarget locations. Our proposals address the range of related issues affecting production and the ultimate use of farm products. We are proposing a package of research and extension programs to address ground water and related pesticide issues. The cornerstone is a $5 million ARS program increase to examine the effects of various farming systems on ground water quality and develop efficient systems which also protect vital water resources. A component of the program would concentrate on the development of new pesticide application techniques to better target chemicals to the site of activity. In a related area, we are proposing funds to enhance the National Agricultural Pesticide Impact Assessment Program at the universities and extension services. This program provides the best mechanism to gather vital pesticide usage and benefit data as an input to the EPA regulatory process.

FOOD SAFETY AND QUALITY

In addition to the nutrient value of foods, today's health-conscious consumers are focusing on the presence of contaminants in foods. Recent academic studies and press reports have implicated our food production and processing systems in the contamination of foods by bacteria, drug, and pesticide residues. Regulatory agencies, both those in the Department and those outside, will be responsible for setting tolerances for contaminants. We are proposing a multifaceted approach to first develop production and processing technologies to provide producers with the tools to avoid or minimize contamination. Second, we propose funding to develop new rapid test methods for use by USDA regulatory agencies in detecting residues in meat and dairy products. This comprehensive approach will assure that producers have the means to produce residue-free products at the same time regulators have the tools to identify those not in compliance. Dr. Kinney will be able to provide details on the specific research plans.

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Response to our competitive grants program continues to be overwhelming, with only about one out of four scientifically meritorious proposals receiving funding. Research funded through this program has brought about solutions to some of the farmer's most vexing and costly problems, including:

Development of the basis for improved models to more effectively predict the timing of fungicide applications.

Improvements which will lead to more efficient livestock production systems.

New understanding of the mechanisms associated with nitrogen fixation in certain plants which forms the basis for more efficient crop production.

Unfortunately, funding for this successful program has declined 15 percent in real terms since 1985. We strongly urge your support for our proposal to provide modest increases for most of the ongoing grant categories and to initiate a new program to examine the effects of stratospheric ozone depletion on major crop and forest systems. Increased ultraviolet light resulting from the observed depletion of high atmosphere ozone will affect agricultural production and it is important that we begin immediately to understand the interactions and mechanisms involved.

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Last year we announced a comprehensive review of extension programs to focus on identified national priority topics. Working closely with extension leaders and clientele, these broad initiatives have been further refined and focused. I am especially proud of the proposals we have developed for the Extension Service which reflect the first stage of funding for the new programs. We are proposing $22 million in new earmarked funds, including a $10 million program to continue to address issues in farm profitability and competitiveness. All of these funds will require full matching by the recipients and innovative projects with broader regional and national application will be stressed. I urge your support for this new direction for Extension, which will provide that crucial final step of transferring information to users.

RURAL REVITALIZATION

Finally, Mr. Chairman, we have all become increasingly concerned with changes in our rural communities. We are supporting the Secretary's commitment to Rural Revitalization with increases for research, extension, and information dissemination to assist local officials and rural residents in enhancing the quality of life in these areas. A $2 million increase for research at the 1890 institutions will focus on rural development and small-scale farm needs. Extension and NAL have teamed to support a new information center to be operated by NAL in support of rural development needs.

Mr. Chairman, in summary, our budget makes a number of proposals to address the current and long-term research and extension needs of agricultural producers and rural residents. We have taken a hard look at our programs and have refocused to emphasize the highest priorities and to strengthen the link between research and extension. At this time, I will be happy to answer any questions you may have.

STATEMENT OF DR. TERRY B. KINNEY, JR.

Senator BURDICK. I recognize at this time, Dr. Kinney.

Dr. KINNEY. Thank you, Mr. Chairman, members of the committee. I am pleased to appear before you again to present the Agricultural Research Service budget and to report on the progress we have made in research in the past year.

We have provided you with a bag of materials that represent some of the end products of research that we have been doing over the years or research that we are continuing to do now. In addition, we have two demonstrations that we won't take time with now because of the shortage of time.

Senator BURDICK. Pardon me, Doctor. Would you bring that microphone over to you?

Dr. KINNEY. Oh, I'm sorry.

Let me repeat. We have, in the bag of materials that we have provided to some of the members here, some examples of the end product of research that ARS has done. In addition, we have two exhibits. One is an exhibit of filters that have resulted from research that was done at our Northern Regional Research Center on what we call the super slurper, the starched graph polymer that is highly absorbent. It is used for filtering water from gasoline or other materials.

The other demonstration is an instrument. Carl Norris, on the end of the front row there, is an engineer who developed the technology that went into the instrument. This instrument actually measures protein, moisture, hardness and quality of wheat. It is being widely used now in the industry.

But these are examples of the end product, the application of some of our research. The primary aim of our research is to solve problems that confront American agriculture, and toward this goal, I feel that we are embarking on one of the most exciting and productive eras of agricultural research.

OUTLOOK ON AGRICULTURAL RESEARCH

Today, the Agricultural Research Service has the organization, the talent, and the experience to come up with practical answers to problems faced by farmers, ranchers, agribusiness, export markets, and consumers. We also have the ability, the system, and the dedication to support sister agencies who need research, often on an emergency or immediate basis.

This excitement that we feel throughout the agency, in all of our locations, is the result of the progress that we have made. I don't know of any time in recent history, Mr. Chairman, when morale among ARS scientists has been higher or their sense of optimism keener, optimism about solving problems.

I recall no time during my tenure at ARS when our relationships with all commodity and industry groups, with the state agricultural experiment stations, with other federal agencies and other cooperating groups was better. They individually and jointly have expressed satisfaction with the programs, the priorities and the cooperation with ARS. We jointly are optimistic and enthusiastic about this cooperation.

Fueling this optimism is the continuing support of the Secretary of Agriculture and the Congress for agricultural research across the board. I want to just mention a few of the areas, without going into detail, where we are doing research that we are excited about. Biotechnology is a new tool; the use of surpluses; technology transfer is an activity that we think is absolutely necessary, and we are spending a great deal of time on it; production efficiency, it goes without saying; ground water contamination; export markets; biological control; germplasm collection and storage and utilization or evaluation; help for the family farms; new products for consumers, something we have been working on for decades; food quality and safety.

This just summarizes the areas that we think are demanding continued attention. It is little wonder, Mr. Chairman, with such a promising array of research goals and technologies and opportunities that our scientists are excited about the future and the importance of their contributions to agriculture and to the national economy.

ARS scientists are enthusiastically refocusing their talents, their energies and their resources to these challenges. Just in the past few months, we have concentrated more directly on the important problems of preserving the quality of the nation's ground water resources and improving the quality and safety of our food supply. Additionally, ARS scientists are enthusiastic about our recent initiatives to upgrade and modernize our research laboratories around the country, including the major effort underway at the Beltsville Agricultural Research Center.

They are enthusiastic, too, about the nationally important programs that they have developed with the leadership of the national program staff and with the direct involvement of the Administrator.

FISCAL YEAR 1989 BUDGET

Mr. Chairman, the ARS budget request for 1989 is $560,957,000. It proposes increased funding in several different program areas. Our No. 1 priority is to increase research to improve the nation's ground water quality.

Other important programs to be strengthened are: research to improve pesticide application techniques; research on the effects of the depletion of stratospheric ozone on crops; and research to reduce bacterial contamination and pesticide residues in foods.

Significant components of this research are in support of regulatory agencies. I also recommend that we speed up the repair and maintenance of federally owned research facilities. We request increased funding to finance pay increases that became effective in 1988; construction funds for the expansion and renovation of the present National Seed Storage Laboratory at Fort Collins, CO, are also proposed in the 1989 budget.

Details about this and other recommendations are spelled out in the explanatory notes that we submitted for the record.

INFORMATIONAL DOCUMENTS

Mr. Chairman, I have several information documents that I would submit for your consideration for inclusion in the record. They include a list of actions that we have taken in response to the 57 directives that we have received from the Congress last year; a report on the technology transfer activities of ARS; a report on the ARS Fellowship Program, which is a relatively new program; a report on the ARS Research Associate Program, which now includes about 300 post-doctorates in ARS; and finally, a report on an institution we started a couple of years ago and that is an ARS Hall of Fame, wherein we have inducted a number of our outstanding scientists.

Mr. Chairman, this concludes my remarks, and I will respond to questions at the appropriate time.

PREPARED STATEMENT

Senator BURDICK. The documents you referred to will be received for the file.

Dr. KINNEY. Thank you.

[The statement and information documents follow:]

STATEMENT OF DR. TERRY B. KINNEY, JR.

Mr. Chairman and members of the committee, I am pleased to appear before you to present the Agricultural Research Service budget recommendations for 1989 and to report on the progress we have made in research this past year.

OUTLOOK

The primary aim of our research is to solve problems that confront American agriculture. Toward this goal, I feel we are embarking on one of the most exciting and productive eras of agricultural research. Today the Agricultural Research Service has the organization, and the talent and experience to come up with practical answers to problems faced by farmers and ranchers, agribusiness, export markets, and consumers. We also have the ability, the system, and dedication to support sister agencies who need research, often on an emergency basis, to carry out their regulatory responsibilities to American agriculture. This excitement is felt throughout the agency, in all our locations. I do not know of any time in recent memory, Mr. Chairman, when morale among ARS scientists has been higher or their sense of optimism keener.

AREAS OF RESEARCH

Fueling this optimism is the continuing support of the Secretary of Agriculture and the Congress for agricultural research, as our agency focuses on important areas of research. Here are a few examples of what is happening:

We have many new research tools, including modern techniques of biotechnology, that will help us solve many of agriculture's most vexing problems.

We are taking a more realistic approach to developing marketable products derived from surplus farm commodities.

We are carrying out new programs of technology transfer, with closer relations with industry, that will shorten the time between research and its application.

We are finding new ways to reduce farm production costs, a key step toward increasing farm income and making our products more competitive in world markets.

We are engaged in a high-priority program to develop better strategies for farm producers to minimize ground water contamination from agriculture.

We are making U.S. agricultural products more acceptable to foreign markets.

We are developing new, novel, and environmentally safe biological controls for insect and weed pests.

We are improving our germplasm collections as "insurance" against disaster, like the disease that infected iceberg lettuce this winter.

We are pursuing ways to help small family farmers increase their incomes.

We are providing the consumer with an increasingly varied, appetizing, and nutritious diet of quality foods, year-round.

We are developing new and more effective ways to detect and prevent contaminants in our food supply and to maintain the highest standards of food quality and safety possible.

It's little wonder, with such a promising array of research goals, that our scientists are excited about the future and the importance of their contributions to agriculture and the national economy. ARS scientists are enthusiastically refocusing their talents, energy, and resources to meet these challenges. Just in the past few months, we have concentrated more directly on the important problems of preserving the quality of the nation's ground water resources and improving the quality and safety of our food supply. Additionally, ARS scientists are enthusiastic about our recent initiatives to upgrade and modernize our research laboratories around the country, including the major effort underway at the Beltsville Agricultural Research Center.

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This concludes my prepared remarks. I will be pleased to answer any questions the committee may have.

AGRICULTURAL RESEARCH SERVICE

Actions in Response to Congressional Directives
(1988)

1. Citrus Canker. Continue citrus canker research at the University of Florida and Orlando at same level as 1987.

    ARS will continue its research on the citrus canker problem at the same level as in 1987 in cooperation with the University of Florida. Research will include the development of resistant varieties, a comparison of nursery strain with the better known Asian strain of the pathogen, and development of chemical controls. Improved methods to detect the pathogen in the environment and how it grows will also be emphasized.

2. Barley Germplasm Evaluation. Increase barley germplasm evaluation, enhancement and storage programs.

    The barley germplasm program will be strengthened in FY 1988 at Aberdeen, Idaho; Madison, Wisconsin; and Urbana, Illinois.

3. Barley Yellow Dwarf Virus. Take lead role in development and implementation of programs to control barley yellow dwarf virus and report by January 1, 1988, progress achieved in 1987 and efforts planned for 1988. Increase barley yellow dwarf research by $188,000 in line with budget increase.

    The Agency is taking the lead role in development and implementation of programs to control barley yellow dwarf virus. A report is being finalized and will be provided to the Committee.

4. Forage Seed Research Center. Provide $180,000 for final staff position at Forage Seed Research Center, Corvallis, Oregon.

    Funds will be used to add one SY position (Geneticist/Agronomist) to the National Forage Seed Production Research Center staff.

5. Appalachian Fruit Research Center. Provide $90,000 for equipment to accelerate research capabilities for peaches and apples at Appalachian Fruit Research Center, Kearneysville, West Virginia.

    Initially the funds will be used to purchase needed research equipment to accelerate research capabilities for fruit research programs. In the next fiscal year, genetic engineering research will be initiated to transfer specific genes to improve quality and pest resistance in apples, peaches, and other tree fruits.

6. Appalachian Soil and Water Conservation Lab. Provide $138,000 to establish a cropping management system on marginal soils at the Appalachian Soil and Water Conservation Lab at Beckley, West Virginia.

    Funds will be used to establish a forage crop management system on marginal soils for enhanced lamb production in the Appalachian region.

7. Potato Research. Provide $1,250,000 for additional potato research and expects ARS to work with National Potato Council and direct research to facilities and universities that have ongoing programs. Research should be coordinated with the regional potato research funded by CSRS. Amounts specifically provided are:

Potato scab	$ 50,000
Ring rot disease	500,000
Early Dying disease	350,000
Marketing	350,000

ARS is actively working with the National Potato Council to determine how best to distribute the $1,250,000 to existing ARS and University potato research programs. Research proposals have been solicited and will be evaluated by an industry-Federal-State panel of experts. The research will be directed to ring rot disease, early dying disease, potato scab, and marketing problems.

8. Potato Research Laboratory, East Grand Forks, MN. Provide an additional $237,000 for technical and operating support for the Potato Research Laboratory at East Grand Forks, MN.

   These funds have been allocated to the ARS potato research laboratory in East Grand Forks, Minnesota, to strengthen operational and technical support of existing research programs on potato quality and marketing. ARS program officials will meet with the Red River Valley Potato Growers Association in the Spring of 1988, to ensure the research is directed to highest priority industry needs.

9. Tri-State Potato Breeding Program. Continue the tri-State potato breeding program for Oregon, Washington and Idaho.

   ARS will continue to provide funds for extramural research with Oregon, Washington, and Idaho, for cooperative potato breeding programs. Emphasis will be on evaluation of selections which have promise as commercial varieties in specific production areas.

10. Delta States Research Center. Provide increase of $400,000 to establish multi-discipline research at the Delta States Research Center, Stoneville, MS, to develop application systems for chemicals and that would eliminate adverse effects on environment. Research should focus on ground and aerial application of insecticides, herbicides, fungicides and plant growth regulators.

    Funds will be used to develop new and innovative technologies for safe application of pesticides and growth regulators that are cost-effective and significantly reduce drift and environmental contamination.

11. Grasshopper Fungus. Provide $69,000 existing funds for grasshopper fungus research be designated to continue research on biological control of grasshoppers at North Dakota State University.

    ARS will continue to provide funds for extramural research with North Dakota State University to develop fungal biocontrol agents for grasshopper control. This research will be directed to support the grasshopper IPM project in North Dakota and Idaho.

12. Sunflower and Sugarbeet Research Facility. Provide $500,000 above request for operation and maintenance of the sunflower and sugarbeet research facility at Fargo, ND.

    The increased funds will be used to support the operations and maintenance of the new crop science laboratory at Fargo, North Dakota, which will be occupied for the first time in 1988.

13. Pea and Lentil Research. Continue pea and lentil research in Northwest, including cooperative program to control lygus bugs on peas and lentils, and expects ARS to review proposal to create International Institute Program at Moscow, ID. ARS is to report to Committee on how to structure the program.

    ARS will continue funding pea and lentil research in the Northwest at the FY 87 level. In addition, ARS will review the industry proposal to create an International Institute Program for cool season legume research at Moscow, Idaho, and report to the Committee on how such a program might be structured.

14. Vegetable Oils as Fuel. Conduct research at Moscow, Idaho, on use of vegetable oils as replacement for diesel fuel be continued at same level.

    Research to develop the potential of vegetable oil as an alternate source of liquid fuel for agriculture is being continued at the FY 1987 funding level.

15. Biological Control Program. Cooperate fully with University of Florida in its biological control program.

    ARS will continue to cooperate with the University of Florida in biological control and participates actively in cooperative research on mole crickets, lesser cornstalk borer, and Diaprepes.

16. Pollinators of Alfalfa. Continue work on nonapis pollinators of alfalfa with emphasis on larval mortality factors and should continue extramural agreements.

    Research on nonapis pollinators of alfalfa will be continued through inhouse initiatives at the ARS Bee Biology and Systematics Laboratory, Logan, Utah, as well as external agreements with University cooperators in Oregon, Washington, Utah, and Idaho. Guidance on objectives of the cooperative agreements are provided by the Northwest Alfalfa Seed Pollinator Research Advisory Committee consisting of industry representation.

17. Morris, Minnesota. Provide $100,000 and hire a systems analyst to staff at Morris, Minnesota, for low-input research.

    Funds will be used to hire a systems analyst. A user model will be developed which will include soil mapping information, tillage and residue management, and fertilizers, chemicals and climate.

18. Sugarcane Crossing House, Canal Point, Florida. Use up to $300,000 to construct a new crossing house at sugarcane breeding station in Canal Point, Florida.

    ARS has awarded a contract to design the crossing house. The design is scheduled for completion in July 1988. It is the Agency's intent to move forward with the construction of the facility because it serves the entire U.S. sugarcane industry.

19. Sweet Potato White Fly. Continue efforts to develop a viable biological control for sweet potato white fly.

    ARS will continue its current program to develop viable biological controls and integrated pest management systems for the sweet potato white fly.

20. National Soil Tilth Center. Develop a detailed proposal for the National Soil Tilth Center, Ames, Iowa.

    ARS is preparing a detailed plan for the research to be conducted at the new National Soil Tilth Center. The report will be presented to Congress when completed. Construction of the Center is scheduled for completion on October 1, 1988. Soil chemistry, biology, and physics research will be directed to solve groundwater quality problems, and to improve farmer profitability by reducing cost inputs and maintaining crop yields and quality.

21. Small Farms Research Center. Provide full funding for Small Farms Research Center at Boonesville, Arkansas.

    ARS is providing funding in FY 1988 at the same level as in FY 1987 and commensurate with present program need.

22. Coastal Plains Soil and Water Research Center. Expand research at Coastal Plains Soil and Water Research Center at Florence, South Carolina.

    Significant research conducted at the Florence location includes integrated water and nutrient management programs to optimize production with limited water supplies. This research program will be strengthened by integration with cotton production research.

23. Systematic Entomology Laboratory, Beltsville, MD. Support full funding for Systematic Entomology Laboratory.

    ARS plans to continue full funding support for the ARS Systematic Entomology Laboratory, Beltsville, Maryland. Scientists and industry representatives have assisted in ranking projects of the laboratory in priority order. Resources will be directed to those projects of highest priority to American agriculture.

24. Muscadine Grapes. Support continued funding, $250,000, on muscadine grapes with emphasis on crown gall disease in cooperation with Mississippi State University.

    ARS will continue providing $250,000 for muscadine research which will be cooperative with Mississippi State University. Emphasis will continue on control of crown gall disease, other production problems, and development of improved quality muscadine products for consumer consumption.

25. Meadowfoam. Provide an additional $250,000 for Federally supported cooperative research on meadowfoam at Oregon State University and coordinated with oil utilization research at Peoria, Illinois.

    Plant production research aimed at realizing the potential of meadowfoam as a signficant domestic crop will be initiated at Oregon State University in concert with industry problems and needs. This research will complement accelerated work at Peoria, Illinois, to facilitate the use of seed oil in the cosmetic industry.

26. Banded Moth Research. Continue banded moth research at the Metabolism and Radiation Laboratory in Fargo, North Dakota, at $35,000 level.

    ARS is currently funding research on the banded sunflower moth at the Metabolism and Radiation Laboratory in Fargo, ND, at an annual level of $168,000 and the cooperative agreement with North Dakota State University remains in effect through FY 1988.

27. Klingerstown, Pennsylvania. Provide authority to allow purchase of 4 acres of land at Klingerstown, Pennsylvania.

    The Agency is currently negotiating the purchase of this land.

28. Toxic Contaminants. Continue assessment of toxic contaminants in Great Lakes at $190,000 level.

    ARS will continue assessment of toxic contaminants in the Great Lakes at the $190,000 level, through a cooperative agreement with Michigan State University.

29. Dwarf Bunt Research. Continue dwarf bunt research at $130,000 level which includes $50,000 for program started last year to eliminate dwarf bunt in Michigan Wheat.

    ARS will continue to support its dwarf bunt research program including the $50,000 cooperative agreement with Michigan State University.

30. Eastern Filbert Blight. Rapidly devote $100,000 additional resources to developing and propagating varieties and pollinizers resistant to Eastern Filbert Blight. ($65,000 additional provided and ARS absorb $35,000.)

    ARS plans to use $100,000 to initiate a program to develop new filbert varieties tolerant to blight, to develop a rapid method of propagation for commercial increase of blight-tolerant varieties, and develop improved methods for blight control in existing orchards planted to blight-susceptible varieties.

31. Lane, Oklahoma. Continue FY 1987 funding level of $1,136,000 at the South Central Agricultural Research Center at Lane, Oklahoma, and $217,000 in connection with Tishomingo Fish Hatchery.

    Lane, Oklahoma, will have a funding level of $1,136,000 in FY 88 for fruit and vegetable research and $217,000 for continued research on catfish production in connection with the Tishomingo Fish Hatchery.

32. Agricultural Research and Development Consortium. Continue at the $2,000,000 level in FY 1988 a grant to the Peoria, Illinois, consortium for furthering the commercialization of agriculturally related products.

    Research for furthering the commercialization of agriculturally related products will be continued at the $2,000,000 level in FY 1988.

33. Yazoo Basin Demonstration Project. Provide $3,492,000, the same as the budget request for the National Sedimentation Laboratory for continuation of the Yazoo Basin Demonstration Project, and to make the facilities available when needed to the Soil Conservation Service.

    This important project at the National Sedimentation Laboratory will continue to be fully funded and the facilities made available to Soil Conservation Service and other agencies as needed.

34. Soybean Oil for Printing Ink. Provide up to $45,000, from available funds, to be used for research at the Northern Regional Research Center on the utilization of vegetable (soybean) oil for the production of printing ink.

    Funds will be used to develop a resin for binding carbon black to paper fibers. Using this fabricated resin plus soybean oil and carbon black, a printing ink will be developed and tested.

35. Human Nutrition Research at Tufts University. Provide an additional $1,000,000 for the Human Nutrition Research Center at Tufts University.

    Funds will be used to determine nutritional requirements of the elderly for optimal health, function and performance; to determine the relationship of nutrition to the aging process; and examine the role of diet in the function of major chronic degenerative conditions.

36. Human Nutrition Research at Baylor University. Provide an additional $2,250,000 for the Human Nutrition Research Center at Baylor University.

    Funds will be used to determine iron deficiency anemia in children--the principal nutritional deficiency of children in the United States.

37. Baylor University Furnishings. Proceed to procure all laboratory equipment and furniture and fixtures needed to make the USDA facility at Baylor fully functional when complete.

    The equipment to make the facility fully functional is being procured.

38. Human Nutrition Research at Grand Forks, ND. Provide an additional $500,000 for the Human Nutrition Research Center at Grand Forks, North Dakota.

    Funds will be used to identify effective food sources of boron and manganese using animal models; evaluate foods as sources of boron and manganese for humans; determine boron and manganese dietary requirements; and study effects of interactions of boron and manganese with other nutrients in humans.

39. Human Nutrition Research at LAIR. Provide an additional $250,000 for the Human Nutrition Research Center at LAIR, California.

    Funds will be used to determine requirements for fatty acids for humans; determine effects of nutritional deficiencies on immunocompetence; and simplify and field test computerized food scale method of assessing dietary intakes.

40. Far East Research Facility. Continue to pursue the establishment of a Far East Research Facility that would work to assist U.S. exporters in reducing non-tariff trade barriers and improve the quality of U.S. agricultural exports to the Far East.

    ARS scientists currently work to resolve concerns of U.S. exporters and importing Asian countries related to quality and insect infestation of U.S. agricultural products. ARS has strengthened its domestic research program with the addition of one export scientist at the Fresno, California, location to improve the quality of U.S. agricultural exports to the Far East.

41. Pecan Aphid Research. Provide an additional $175,000 for research on the pecan aphid.

Funds will be used at Byron, Georgia, and Stoneville, Mississippi, for development of biocontrol alternatives to chemical pesticides for pecan aphid control.

42. Tracheal and Varroa Mite Research. Provide necessary resources to tracheal and varroa mites research and to pesticide research of importance to the beekeeping industry.

An ARS honey bee research unit has been established at Weslaco, Texas, to conduct research on the chemical control and management of the tracheal mite. In response to the discovery of the varroa mite in the United States, $50,000 of the Administrator's contingency funds was immediately released to initiate a crash program of research at Beltsville, Maryland, to develop regulatory treatments for control of the mite. In addition, resources will be redirected from bee nutrition research, Beltsville, Maryland, to discover chemical treatments for the management and control of varroa mites in bee hives. For the longer term, resources at Baton Rouge, Louisiana, have been redirected to genetically select or engineer honey bee stocks which produce a variety of honey bees resistant to varroa mites.

43. Plant and Moisture Plant Stress Laboratory. Provide an additional $250,000 to expand the plant and moisture stress research at the Plant and Moisture Stress Laboratory located at Texas Tech University.

Funds will be used to determine plant enzyme activity changes related to environmental stresses.

44. Cornstarch-Based Biodegradable Plastic. Provide $350,000 to support the work on cornstarch-based biodegradable plastic underway at NRRC and to use the funds to accelerate the movement of this new product into widespread commercial applications.

ARS will hire a permanent scientist with training in polymer engineering and a support scientist to continue research on cornstarch-based biodegradable plastic at the Northern Regional Research Center, Peoria, IL. New knowledge to be developed will be enhanced by producers of plastic beverage bottles.

45. Trifly Research. Use $500,000 of increased funds for a large-scale experiment in Hawaii to determine whether the eradication of the trifly complex, including the medfly, can be achieved. The program should be in cooperation with the University of Hawaii.

Funds will be used to conduct demographic studies of the Mediterranean fruit fly and its host plants on Kauai and Niihau; to evaluate the sterile insect technique to eliminate the Mediterranean fruit fly; and to determine environmental impact of the proposed trifly program.

46. Fruit Research. Give increased attention to the important work on fruit research at Wenatchee and Yakima.

ARS will continue to work closely with State and industry officials on expansion and coordination of research to serve the Washington and Northwest fruit industries. Emphasis will be given to research to increase fruit exports and planning for a new research facility at Yakima.

47. Bird Garden at National Arboretum. Use $50,000 to relocate the bird garden at the National Arboretum.

    Funds will be used to relocate the existing bird garden at the National Arboretum into a wooded area to provide cover and a natural habitat for birds and to provide better opportunities for the general public to make bird observations and participate in educational programs on birds.

48. Aircraft. Examine the number of aircraft needed at College Station and Weslaco, Texas, and reduce the total number needed at the two stations.

    A review of existing aircraft and related program requirements has been completed. One aircraft stationed at College Station is being considered for elimination from the fleet due to maintenance concerns and being excess to program needs.

49. Old West School of Veterinary Medicine. Use $1,800,000 from the appropriation for the Old West School of Veterinary Medicine and provide funding for the Meat Animal Research Center in Clay Center, Nebraska, with about half of the funds used for equipment for herd health system and the other half used for equipment for the meat safety assurance program.

    The funding will be allocated as directed to acquire equipment and otherwise support herd health and meat safety research programs at the ARS Meat Animal Research Center in Clay Center, Nebraska.

50. Low-Input Research. Maintain funding for the low-input research projects involving crops, soils, production methods and weed, insect, and disease pests on individual field or other areas.

    The Agency's comprehensive research program to reduce farm production costs will be continued. These efforts have the potential for increasing farm profitability and preserving the quality of the environment.

51. Pest Control Techniques. Direct research to development of programs that educate consumers and allow safe use of pest control techniques.

    ARS is conducting research on a number of pest problems of the urban and semi-urban environment with the objective of improved safe use of pesticides while reducing the dependence on pesticide use. The research approaches include chemical, biological, environmental management, and genetic technologies with the long-term goal of developing integrated strategies for pest control.

52. Kenaf Research. Provide an additional $300,000 for research on kenaf at Weslaco and Lane.

    Increased funds of $150,000 will be directed to Lane, Oklahoma, for research on agronomic production systems of kenaf. An additional $150,000 will be directed to Weslaco, Texas, for research on mechanization for harvesting and handling system.

53. Grasses. Increase research efforts, within available funds on water-conserving, stress-tolerant, low-maintenance grasses.

    ARS is conducting research in the area at Mandan, ND; Logan, UT; Lincoln, NE; El Reno, OK; Temple, TX; College Station, TX;

Watkinsville, GA; Beckley, WV; Beltsville, MD (turfgrass); and University Park, PA. Germplasm evaluation and enhancement will be expanded in FY 1988.

54. Long-Term Objective Oriented Research. Advise the Committee prior to the 1989 hearings of the feasibility of assembling a team to deal with long-term objective oriented research.

The report is being prepared and will be provided to the Committee when completed.

55. Cranberry and Blueberry Research. In conjunction with CSRS, submit a plan to the Committees for upgrading the Rutgers University Center for cranberry and blueberry research at Oswego Lake, New Jersey.

ARS is working with CSRS and Rutgers University representatives to develop and submit a plan to the Committee on upgrading the cranberry and blueberry research center at Oswego, New Jersey.

56. Interagency Task Force for Effective Control of Pest and Diseases. The Secretary of Agriculture and the Administrator of the Environmental Protection Agency shall establish an interagency task force for the effective control of pests and diseases. The task force shall consist of a representative of the Agricultural Research Service, the Animal and Plant Health Inspection Service, the Forest Service, the Food and Drug Administration, the Environmental Protection Agency and three representatives from private industry. The task force shall be organized under existing authority of law and may use up to $150,000 of each agency's appropriation for necessary expenses.

USDA, EPA, and FDA officials have met to organize the interagency task force to evaluate the availability and status of effective controls for agriculture and forest pests. Private sector representatives will be involved in the evaluation. Initial emphasis will be on gypsy moth, fire ant, grasshoppers, tussock moth, and pine bark beetle.

57. Gypsy Moth. For a number of years the Committee has dealt with the spread of gypsy moth. The Committee feels it is essential that the Department develop a coordinated plan for a research and extension program to control or eradicate the gypsy moth. The plan should be developed jointly by the Agricultural Research Service, Extension Service, Animal and Plant Health Inspection Service, and Forest Service and should be completed and ready for implementation by the start of the hearings on the fiscal year 1989 budget request. This comprehensive plan should include the critical evaluation of alternative management strategies for dealing with the gypsy moth in diverse situations, including public parks, commercial forests, and urban and suburban communities.

The Department has established a Gypsy Moth Working Group to coordinate the control, research, and education programs of involved USDA agencies. These include FS, APHIS, ARS, ES, and CSRS; FS is the lead Agency. The State Departments of Agriculture and private sector are also represented through the Gypsy Moth Management Board. The Working Group has delineated agency functional responsibilities and established a plan to implement and coordinate programs. Alternative gypsy moth management strategies will be evaluated in 1988 in the Appalachian Gypsy Moth IPM Demonstration Project in Virginia and West Virginia.

NEW PROGRAM ON TECHNOLOGY TRANSFER

The Agricultural Research Service (ARS) has taken a number of initiatives to implement the Federal Technology Transfer Act of 1986 (Public Law 99-502) and Executive Order 12591 "Facilitating Access to Science and Technology." Included are:

- Conducted a Patent Awareness Training Program designed for ARS Research Leaders and Managers to bring them up-to-date on pending technology transfer legislation and the basic fundamentals for patenting research results.

- Initiated with the support and encouragement of the Assistant Secretary for Science and Education, a Departmental study on how the U.S. Department of Agriculture (USDA) can best implement Public Law 99-502 (P.L. 99-502).

- Conducted orientation briefings on technology transfer at ARS locations.

- Developed an orientation package featuring a short video tape on technology transfer to be used by locations, in particular, for new employees.

- Streamlined the patent process which included issuance of guidelines to patent committees for selecting the most important inventions to patents, increasing the number of patent advisors and assigning inventions to them on the basis of their specialization.

- Stepped-up licensing activities. In FY 1987, ARS granted, through National Technical Information Service, 15 royalty bearing licenses on patented technology.

- Provided industry and action agency users access to the latest ARS research results via a database called TEKTRAN (Technology Transfer Automated Retrieval System). Through TEKTRAN, summaries of the latest ARS research are made directly available to industry and action agencies. Approximately 400 industrial firms, universities and Government agencies requested and were granted access to the system this fiscal year.

- Initiated ARS location technology transfer meetings. The objectives of these meetings are to make the industry more aware of the kinds of research that is done in ARS laboratories, what some of our accomplishments are that may be sitting on the shelf waiting to be picked up, what our facilities are, and what scientific expertise is available at that laboratory. To date, such meetings have been held at 15 ARS laboratories.

- Designated the ARS Northern Regional Research Center (NRRC) at Peoria, Illinois, as a Technology Share Laboratory as prescribed in Executive Order 12591. Such designation requires that the laboratory be a participant in an Industry-University-Government (6 diverse industry firms, University of Illinois, and NRRC) laboratory consortium to generate and share technology of mutual interest. The organization for the six diverse companies is called the Biotechnology Research and Development Corporation (BRDC), and each company contributes funds annually to match additional funds provided by the State of Illinois and ARS. These funds are used to support research in the broad areas of microbial biotechnology and bioprocessing at the University of Illinois and NRRC.

ARS FELLOWSHIP PROGRAM

The ARS Fellowship Program was initiated in 1983 with the first three fellowships awarded in February 1984. A total of 26 fellowships have been awarded at a total cost of approximately $200,000.

Fellowships Awarded:

1984	1985	1986	1987	Total
8	8	8	2	26

Fellowship Location (No. ARS Participants)		Discipline of Participant
CANADA (1)		
London, Ontario	Research Center, Canada Agriculture	Chemistry
AUSTRALIA (1)		
Glen Osmond	Waite Agricultural Research Institute	Plant Pathology
WEST GERMANY (2)		
Stuttgart	University of Hohenheim	Plant Physiology
Munchen	Botanisches Institute der Universitat Munchen	Chemistry
FRANCE (1)		
Jouy-en-Josas	Ministere de L'Agriculture	Dairy Science
IRELAND (1)		
Belfast	Veterinary Research Laboratory, Ministry of Agriculture	Veterinary Medicine
SWITZERLAND (1)		
Zurich	Mikrobiologisches Institute	Microbiology
ISRAEL (1)		
Rehovot	Weizmann Institute of Science	Plant Physiology

Fellowship Location (No. ARS Participants)		Discipline of Participant
ENGLAND (11)		
Milton Keyenes	The Open University	Genetics
Brighton	University of Sussex	Microbiology
Sutton Bonington	University of Nottingham	Animal Physiology
Huntington	Houghton Poultry Research Station	Veterinary Medicine
Harpenden	Rothamsted Experimental Station	Plant Physiology
Norwich	John Innes Institute	Chemistry
Essex	University of Essex	Plant Physiology
Littlehampton	Glasshouse Crops Research Institute	Plant Pathology
Liverpool	University of Liverpool	Entomology
London	University of London	Veterinary Medicine
UNITED STATES (7)		
CA, San Diego	Salk Institute	Plant Physiology
FL, Tallahassee	Florida State University	Plant Pathology
GA, Athens	University of Georgia	Plant Genetics
MD, Frederick	Frederick Cancer Research Facility	Genetics (Animal)
NJ, Princeton	Princeton University	Soil Science
NY, Albany	Albany Medical College	Physiology
NC, Research Triangle Park	Environmental Protection Agency	Chemistry

ARS Research Associateship Program

In 1983, ARS requested and received from the Office of Personnel Management a special authority for annually appointing 25 postdoctoral research associates. The ARS positions filled under this authority were intended for persons with no more than 3 years postdoctoral experience.

With the eventual removal of any numerical limitation on the number of associates that could be hired annually, ARS aggressively expanded the program. During Fiscal Years 1986, 1987, and 1988, the Administrator funded 301 positions. Additional postdoctoral positions are funded each year by individual ARS research units so that at any one time there are 320 to 350 Research Associates working with ARS under Federal appointments.

In 1987, ARS incorporated into its recruitment procedures for the program, a minority "outreach" effort, with the goal of increasing minority representation in the scientific disciplines where minorities were found to be most underrepresented in the Agency's professional work force. Of the 100 positions funded in 1987 by the Administrator, 14 have been filled by persons from the underrepresented groups. This effort is continuing in 1988, with the expectation of hiring an additional 8 to 15 minority scientists.

In 1988, in an effort to expand interactions with the Historically Black Colleges and Universities (HBCU), ARS will fund for 2 years four Research Associate positions at the HBCU's to conduct on-site research of mutual interest to ARS and the HBCU. The Associate will be physically located at the HBCU to work actively on a day-to-day basis with HBCU staff, but will receive supervision from an ARS research unit which has already established and demonstrated active research interest and collaboration with HBCU's. The four participating HBCU's are: Fort Valley State College, Fort Valley, Georgia; North Carolina A&T State University, Greensboro, North Carolina; Prairie View A&M University, Prairie View, Texas; and University of Maryland-Eastern Shore, Princess Anne, Maryland.

ARS plans to continue hiring outstanding young scientists through this program as one means to strengthen Agency talent in the latest technologies.

AGRICULTURAL RESEARCH SERVICE HALL OF FAME

The ARS Science Hall of Fame was inaugurated in 1986 to annually recognize one or more outstanding ARS scientists who have retired, or are eligible to retire, who have made a major impact on agricultural research and are still professionally active and can serve as role models for younger ARS scientists, subject to the following criteria:

- The selectee's research must have contributed significantly to the solution of a major agricultural problem and reflect credit on the Agricultural Research Service.
- The selectee is recognized nationally and internationally by his or her peers in the scientific community.
- The selectee's character and record of achievement is worthy of emulation by younger agricultural scientists.
- The selectee must be either retired or eligible to retire and must continue to be professionally active.

The winners are appropriately recognized at an awards ceremony held annually in June. Each receives a plaque commemorating the award and a duplicate plaque citing the achievements of each will be on permanent display in the new ARS National Visitor Center scheduled for formal opening in 1988 at the Beltsville Agricultural Research Center. The names of the winners are also displayed in the ARS Administrator's Office.

COOPERATIVE STATE RESEARCH SERVICE

STATEMENT OF DR. JOHN PATRICK JORDAN, ADMINISTRATOR

ACCOMPANIED BY:
  CLARE I. HARRIS, ASSOCIATE ADMINISTRATOR
  WILLIAM D. CARLSON, ASSOCIATE ADMINISTRATOR, OFFICE OF GRANTS AND PROGRAM SYSTEMS
  LUIS D. SEQUEIRA, CHIEF SCIENTIST, COMPETITIVE RESEARCH GRANTS PROGRAM, OFFICE OF GRANTS AND PROGRAM SYSTEMS

OPENING REMARKS

Senator BURDICK. Our next witness will be John Patrick Jordan.

Dr. JORDAN. Mr. Chairman, I have submitted a complete copy of my testimony, and if I may summarize some of the high points, I would proceed, sir.

The Cooperative State Research Service is the agency of the USDA through which federal research funding for the states is channeled and coordinated on behalf of the USDA in cooperation with all of the state and territorial agricultural experiment stations; the Colleges of 1890, including Tuskegee University; all of the forestry schools and all of the colleges of veterinary medicine in the United States of America. In addition to land-grant universities, there are other universities, not of the land-grant model, which are participants in the system.

As conveyed in Public Law 100–7, 1987 marked the beginning of the second century for the act authored by William Henry Hatch of Missouri that established a national system of state agricultural experiment stations. The activities of the year, Mr. Chairman, focused overwhelmingly on the future with only a modest look backward at the accomplishments of the first century. Emblematic of that future look was a symposium, the results of which are in your packet, entitled "Agricultural Research for a Better Tomorrow," that was held at the National Academy of Sciences.

The Smithsonian exhibit, and there is a flyer in your packet about it, entitled, "The Search for Life," is on display now in the National Museum of American History. It will go on tour and then return to the Smithsonian as a permanent exhibit. This exhibit emphasizes the impact of science on agriculture and on health and gives you a look into the future for the potential of these impacts as well as a record of the history of those impacts.

This spring, USDA and the National Academy of Sciences will cosponsor a national symposium entitled, "Focus: Future Opportunities and Challenges Unique to Science." In addition to the participation by many of the 360 absolutely outstanding graduate students who are recipients of the National Need Fellowships provided through CSRS, there will be world renowned leaders in industry, academia, and governmental research and education.

REPORT OF SELECTED SIGNIFICANT ACCOMPLISHMENTS

Each year, Mr. Chairman, you have allowed me to report on a few successes in the system. This year, I would like to focus on those that emphasize responsiveness to national needs. The number of exciting advances made over the last year is large, indeed. But one of the most interesting, supported through the Hatch Act, is the discovery that daily injections of pig growth hormone (*porcine somatotropin*) makes young pigs grow faster with a dramatically leaner carcass. This pertains specifically to the national goal of diet and health issues. This work has been principally done at Cornell University, Pennsylvania State University, and the University of Illinois.

Scientists at Oregon State University have used the McIntire-Stennis Cooperative Forestry Research money to develop a technique for predicting the strength of wooden beams by sonic techniques. This is important not only in the construction of new buildings, but also in terms of determining the strength and stability of existing buildings.

Scientists at the Washington State Agricultural Experiment Station have demonstrated that adequate dietary intake appears to compensate for something that has been really on our minds, namely, the urinary loss of calcium and magnesium stimulated by caffeine consumption. Calcium losses exaggerate the metabolic problems of osteosporosis and hypertension, problems for all of us, but particularly significant in the post-menopausal woman.

Among the special grants, the Pesticide Clearance Program is particularly important. The New York Regional Laboratory at Cornell completed residue determinations on 100 crop-commodity studies, 63 field evaluation trials on food crops, and 39 trials on ornamental crops. These studies, plus those conducted in the other three regions, resulted in the IR–4 preparing 65 proposals for tolerance in obtaining from EPA 26 new food use tolerances and 306 ornamental registrations.

All four regions of the nation, Mr. Chairman, and many of the individual states have mounted substantial integrated pest management programs. The goal, of course, is to synchronize the management of pests with the production of commodities in a manner that will maximize economic yield, efficiency of production and grower profits and at the same time, resolve environmental and biological problems associated with past pest control approaches.

Economic studies have substantiated over $510 million annually as direct benefits to the farmers and ranchers of Texas resulting from the IPM program for cotton in that one state alone. Balancing of components in timing of the program is now done very well with the aid of personal computers through a technique developed at Texas A&M University.

I have before you at the moment two graphics. The first one emphasizes the fact that we can load into the personal computers various data bases, not only in terms of the physical environment and the biological environment, but also land use planning information and endangered species information. Then we can begin to produce a composite map which can, in fact, be put on top of an infrared photograph, and we can determine exactly when and where to use pesticides, biological control measures, or cultural practices to help reduce the dependency on chemicals in the production of food, fiber, fuels, floraculture, and forest products.

In order to combat brucellosis, research is needed to develop vaccines and diagnostic agents. Recombinant DNA techniques are being used to clone the genes for the major surface proteins of Brucella. A major protein has been cloned and its structure determined. Studies are currently underway at Iowa State University to determine whether this protein is immunogenic and can be used in diagnostic tests or perhaps as the basis of a vaccine, a very innovative approach.

BUDGET RECOMMENDATION

The CSRS explanatory notes, Mr. Chairman, carry a large number of stories of successes. If I may now, sir, I would like to return to the issue of the budget recommendation, which for CSRS in fiscal year 1989 is for $257.5 million. It reflects the Budget Summit Agreement and at the same time recognizes the commitment of this nation to the concept behind the Hatch Act of 1887. The budget continues to reflect strong support for the state-federal partnership of food and agricultural research, which was established by that act.

The Hatch, McIntire-Stennis, and Evans-Allen programs are the foundation upon which the remaining federal funds, including special and competitive research grants, plus funds from the state legislatures and private industry create spikes or peaks of excellence. Funding of these base programs has a high priority because it supports the basic laboratory facilities, scientists, and graduate students necessary, for the long-term stability of agricultural research. These programs allow maximum flexibility in terms of station level decisions to support research of the highest priority and at the same time, assure the strong working relationship between USDA and the State Agricultural Experiment Station system. The budget recommendation contains a $2 million increase for the Evans-Allen program specifically earmarked for rural revitalization research, emphasizing the needs of small-scale farmers, an area in which the Colleges of 1890 have taken national leadership. Funding for the Hatch Act remains at the fiscal year 1988 level, which is a substantial increase above fiscal year 1987, and we are very pleased with that. There is a decrease of $4.5 million in the McIntire-Stennis program below what was appropriated for fiscal year 1988, but nevertheless, essentially higher than fiscal year 1987.

The Competitive Research Grants Program has earned a fine reputation in the scientific community because of the quality of research and leadership that we have been able to attract to the position of Chief Scientist. As Senator Kasten has already indicated, Dr. Luis Sequeira, a member of the National Academy of Sciences, is our current Chief Scientist, and he is with us today.

The Competitive Research Grants Program also is considered a high priority with fiscal year 1989 funding recommended at 28.6 percent above fiscal year 1988. This will allow USDA to participate in a joint Plant Science Centers Program with the National Science Foundation and the Department of Energy. The increase will also bring funding for human nutrition to $3 million per year, a level we consider to be minimum for a viable program. An increase of $1 million is requested for the Animal Science Program. There is also a $2.6 million increase for the high priority Biotechnology Program in animals and plants. As an example of the importance of this effort, the National Academy of Sciences recently published a book entitled "Agricultural Biotechnology: Strategies for National Competitiveness 1987." The basis of much of this proposed increase lies in that book. Technology to clone genes and transfer agriculturally important organisms is making rapid progress, but we need to know much more about what is behind these actions in order to take full advantage of the advancement of this important area. We critically need this foundation information to keep us competitive in agriculture. A new program of research is proposed to examine the effects of the depletion of stratospheric ozone on major crops. This request of $7.4 million will allow the United States to join an international effort for further study of changes in stratospheric ozone and their effects.

The Plant Science Centers, if I may return to that issue, Mr. Chairman, is an especially promising joint venture involving USDA, NSF, and DOE. Addressing the erosion of available basic knowledge, the growth in plant science research is believed necessary to ensure the future competitive position of U.S. agriculture. The program is developed and patterned after the very successful Engineering Centers Program of the NSF. The program is designed to utilize the combined talent and other resources of academia, federal laboratories and industry, as well as state and local agencies. It will stimulate and provide long-term stability for disciplinary, multidisciplinary and interdisciplinary plant science research and the training at the undergraduate, graduate, and post-doctoral levels.

Funding is being requested for selected special research grants which address important national needs, such as acid precipitation, minor use animal drugs, pesticide clearance, pesticide impact assessment, and the National Biological Impact Assessment Program. This request also provides funding for research and demonstration projects on the development of alternate crops and the use of agricultural products, such as guayule, hybrid striped bass, crambe, and winter rapeseed.

Strengthening grants are recommended for the Colleges of 1890 and Tuskegee University at the level of $2 million. As a part of the overall spending reduction package, however, no funding has been recommended for the Morrill-Nelson Permanent Appropriation, graduate training grants, rangeland research, and certain other grants programs. Support for these activities can be provided in both the base-funded programs and the Competitive Research Grants Program.

PLANNING

Mr. Chairman, with your permission I would now like to turn to the issue of planning. In reporting the activities of the stations, you have in your package a summary prepared by one state, but it is typical of those prepared by each state in the nation, which show where they have been over the past 100 years and where they intend to go in the future.

In that same vein, they join the CSRS in preparing a magazine called "Fertile Fields," which gives you that same perspective across disciplinary boundaries on a national basis. A year ago, I brought to this committee a report prepared jointly by the Experiment Station Committee on Organization and Policy and the Cooperative State Research Service entitled, "Research Initiatives: A Research Agenda for the State Agricultural Experiment Stations." This year, in your packet, is a midterm update of that same document. It does not contain all the same detail. What it merely does is refocus, readdress, and restructure some of the objectives and the 21 major initiatives that came out of that effort. In 1989, Mr. Chairman, we will overhaul that once more, starting at ground zero with the thorough investment of time, energy, and effort to obtain the inputs of the various publics for agricultural research once again.

Many of the initiatives have objectives in the fields of economics. CSRS, in cooperation with the Economic Research Service and, of course, the university system, has completed an indepth study of the economic components of this plan. Over 560 inputs were received, out of which 51 crisply stated researchable questions were identified. They have been arranged in a report in priority order. The cost of conducting each research project has been determined, the length of time required to complete each project has been estimated, and the cost of not conducting the research project has also been carefully addressed.

PREPARED STATEMENT

The point of this, Mr. Chairman, is to emphasize to you and members of the subcommittee how carefully the State Agricultural Experiment system is in preparing its plans. Mr. Chairman, that concludes my prepared remarks. I will be pleased to answer questions at the appropriate time.

STATEMENT OF DR. JOHN PATRICK JORDAN

Mr. Chairman and members of the subcommittee: The Cooperative State Research Service is the agency of the USDA through which federal research funding for the states is channeled and coordinated on behalf of the Department of Agriculture, in cooperation with all of the State and Territorial Agricultural Experiment Stations; the Colleges of 1890, including Tuskegee University; all of the forestry schools; and all of the Colleges of Veterinary Medicine in the United States. In addition to land-grant universities, there are other universities, not of the land-grant model, which are participants in the system.

There are many institutions, at least one in every state and many of the territories, in this system. But, they operate as a well-coordinated system to jointly address regional and national needs as well as their particular state and local agendas. The multistate approach of the State Agricultural Experiment Stations' Regional Research projects has proven a very effective means of bringing needed expertise together to address complex problems. These "centers without walls" provide needed multidisciplinary approaches to problems and yet are easily disbanded as needs change.

As conveyed in Public Law 100-7, 1987 marked the beginning of the second century for the act authored by William Henry Hatch of Missouri that established a national system of State Agricultural Experiment Stations. The activities of the year focused overwhelmingly on the future with only a modest look backward to see the accomplishments of the past century. Emblematic of that future look was a symposium, the results of which are in your packet, entitled "Agricultural Research for a Better Tomorrow," which was conducted at the National Academy of Sciences. Even the Smithsonian exhibit, entitled "The Search for Life," portrays so very well the impact of science on agriculture and on health, and provides much food for thought about its potential impacts for the future. In your packet is a flyer which indicates the contents of the exhibit which is on display now at the National Museum of American History. Later in this year it will begin a 2-year tour, only to return to the Smithsonian as a permanent exhibit.

Also, emblematic of the forward look, the USDA and the National Academy of Sciences will cosponsor a National Symposium in April, entitled "FOCUS: Future Opportunities and Challenges Unique to Science." In addition to participation by many of the 360 absolutely outstanding graduate students who are recipients of National Need Fellowships provided through CSRS will be world renowned leaders in industry, academic, and governmental research and education.

REPORT OF SELECTED SIGNIFICANT ACCOMPLISHMENTS

The number of exciting advances made over the last year is large indeed. But, one of the most interesting, supported through the Hatch Act program, is the discovery and the detail study that daily injections of pig growth hormone (*porcine somatotropin*) make young pigs grow faster with a dramatically leaner carcass. This work has been done principally at Cornell, Pennsylvania State, and Illinois Universities. Treated pigs grew 15 to 18 percent faster than untreated animals, reaching market weight 7 to 10 days sooner with a 30-percent gain in feed efficiency. At the same time, carcasses of the hormone-treated pigs had 55 percent less fat and 15 to 18 percent more muscle. These results have important implications for both producers and consumers as more efficient methods of producing leaner meat becomes more and more critical in addressing the diet and health issue.

Scientists at Oregon State University have used McIntire-Stennis Cooperative Forestry Research money to develop a technique of predicting the strength of small wooden beams by sonic techniques. They have been able to correlate beam strength with the presence of defects or decay and to estimate the amount of wood affected. The technique is accurate 95 percent of the time and provides a new means of quality control. This will enable wood products to better compete in the materials market.

Scientists at the Washington State Agricultural Experiment Station have demonstrated that adequate dietary intake appears to compensate for urinary losses of calcium and magnesium stimulated by caffeine consumption. Calcium losses exaggerate the metabolic problems of osteosporosis and hypertension. Thirty-seven women over 33, who consumed at least the equivalent of two cups of coffee per day were studied before and after they gave up caffeine. A strong cup of coffee caused urinary calcium and magnesium losses in all subjects by causing the kidney to become less efficient at keeping the calcium passing through it. Only the women with intake less than 600 milligrams per day of calcium showed increased bone turnover and lower serum calcium when they were consuming caffeine.

Soil solarization is a nonchemical method for controlling weeds. It is a special mulching process utilizing solar energy which causes hydrothermal disinfestation. It also causes chemical and biological changes in soil, reduces soilborne pests, and stimulates growth in yield of crops. Tuskegee University scientists showed that the technique controlled weeds such as purple nutsedge, crab grass, barnyard grass, Florida pusley, pig weed, cocklebur, morning glory, and coffee weed by effectively increasing soil temperature 45 to 50 degrees Fahrenheit in the top 5 centimeters of soil. This research was funded from the Evans-Allen program.

Among the Special Grants, the pesticide clearance program is particularly important. The New York Regional Laboratory at Cornell completed residue determinations on 100 crop-commodity studies, 63 field evaluation trials on food crops, and 39 trials on ornamental crops. These studies, plus similar studies in the other three regions, resulted in the IR-4 project preparing 65 proposals for tolerance in obtaining from EPA 26 new food use tolerances and 306 ornamental registrations.

All four regions and many individual states have mounted substantial integrated pest management programs. The goal is to synchronize the management of pests with the production of the commodity in a manner that will maximize economic yield, increase the efficiency of production and grower profits by reducing costs of production, while sustaining agricultural productivity, and resolving environmental and biological problems associated with past pest control approaches. Economic studies have substantiated over $510 million annually as direct benefits to Texas as a result of IPM programs for cotton in that state. Balancing of components in timing in the program is now done very well with the aid of personal computers through a technique developed at Texas A&M University.

In order to combat brucellosis, research is needed to develop vaccines and diagnostic agents. Recombinant DNA techniques are being used to clone the genes for the major surface proteins of Brucella. A major protein has been cloned and its structure determined. Studies are currently underway at Iowa State University to determine whether this protein is immunogenic and can be used in diagnostic tests or as the basis of a vaccine.

BUDGET RECOMMENDATION

The budget recommendation for fiscal year 1989 for CSRS is $257,489,000. It reflects the budget summit agreement and at the same time recognizes the commitment of this nation to the concept behind the Hatch Act of 1887. The budget continues to reflect strong support for the state-federal partnership in food and agricultural research which was established by that act. The Hatch, McIntire-Stennis, and Evans-Allen programs are the foundation upon which the remaining federal funds including special and competitive research grants plus funds from the state legislatures and private industry create peaks of excellence. Funding of these base programs has a high priority because it supports the basic laboratory facilities, scientists, and graduate students necessary for the long-term stability of agricultural research. These programs allow maximum flexibility at the station level to support research of the highest priority and at the same time assure the strong working relationship between the USDA and the State Agricultural Experiment Station system. The budget recommendation contains a $2 million increase for the Evans-Allen program for rural revitalization research emphasizing needs of small-scale farmers. Funding for the Hatch Act remains at the fiscal year 1988 appropriated level of $155,545,000. A decrease of $4,525,000 is proposed for the McIntire-Stennis program.

The Competitive Research Grants Program has earned a fine reputation in the scientific community because of the quality of research and the leadership we have been able to attract to the Chief Scientist position. Dr. Luis Sequeira, a member of the National Academy of Sciences and our current Chief Scientist, is with us today.

The Competitive Research Grants Program also is considered high priority with fiscal year 1989 funding recommended at 28.6 percent above fiscal year 1988. This will allow the USDA to participate in a joint plant science research grants program with the National Science Foundation and Department of Energy (Plant Science Centers). The increase will also bring funding for human nutrition to $3 million per year, a level we consider to be minimum for a viable program. An increase of $1 million is requested for the animal science program. There is also a $2.6 million increase for the high-priority biotechnology program in animals and plants. As an example, the importance of biotechnology in agriculture was recently highlighted in the National Academy of

Sciences (NAS) study and publication, "Agricultural Biotechnology—Strategies for National Competitiveness 1987." Technology to clone genes and transform agriculturally important organisms is making rapid progress. We need to more fully know what genes transfer in order to fully take advantage of the advancement in technology. We critically need this foundation information to keep us competitive in agriculture. A new program of research is proposed to examine the effects of the depletion of stratospheric ozone on major crops. This request of $7.4 million will allow the United States to join an international effort for further study of changes in stratospheric ozone and their effects.

The Plant Science Centers Program is an especially promising joint venture involving USDA, NSF, and DOE. Addressing the erosion of valuable basic knowledge, the growth in plant science research is believed necessary to ensure the future competitive position of U.S. agriculture. The program is developed and patterned after the very successful engineering centers program of NSF. The program is designed to utilize the combined talent and other resources in academia, federal laboratories, industry, and state and local agencies. It will stimulate and provide long-term stable support for disciplinary, multidisciplinary, and interdisciplinary plant science research and training at the undergraduate, graduate, and post-doctoral levels.

Funding is being requested for selected Special Research Grants which address important national needs such as acid precipitation, minor use animal drugs, pesticide clearance, pesticide impact assessment, and the National Biological Impact Assessment Program. This request also provides funding for research and demonstration projects on the development of alternate crops and uses for agricultural products such as guayule, hybrid striped bass, crambe, and rapeseed. Strengthening grants are recommended for the Colleges of 1890 and Tuskegee University at the level of $2 million.

As part of the overall spending reduction package, no funding has been recommended for the Morrill-Nelson Permanent Appropriation, Graduate Training Grants, Rangeland Research, and other grant programs. Support for these activities can be provided in both the base-funded programs and the Competitive Research Grants Program.

PLANNING

Mr. Chairman, this committee is well aware of the strategic planning process that the State Agricultural Experiment Station system has implemented, including related programs in veterinary medicine, home economics, forestry, and at the 1890 Land-Grant schools. Last year, I shared with members of the committee a publication entitled "Research Initiatives: A Research Agenda for the State Agricultural Experiment Stations." This year I have placed in your packet an update of that document which has just come off the press. It does not contain as much detail as the base document, but is to serve as a midterm vehicle to adjust initiatives and priorities among 21 major initiative areas. Pages 6 and 7 contain an array of 104 objectives under those 21 initiatives. The document is independent of the source of money and shows where the overall system is moving. It will be overhauled in 1989 with the same thorough input that made the base document so valuable.

Many of the initiatives have objectives in the field of economics. CSRS, in cooperation with the Economic Research Service, has completed an indepth study of the economic components of this plan. Over 560 inputs were received, out of which 51 crisply stated researchable questions were identified. They have been arranged in priority order, the cost of conducting each research project determined, the length of time required to determine each project has been estimated, and the cost of not conducting the research project has also been carefully addressed. The point of this, Mr. Chairman, is to emphasize to you and the members of the subcommittee how carefully the State Agricultural Experiment Station system is in preparing its plans.

Mr. Chairman, that concludes my prepared remarks. I will be pleased to answer any questions.

BIOGRAPHICAL SKETCH

LUIS SEQUEIRA, CHIEF SCIENTIST, COMPETITIVE RESEARCH GRANTS PROGRAM

Dr. Luis Sequeira was appointed Chief Scientist of the Cooperative State Research Service's Competitive Research Grants Office in October 1987. He provides administrative guidance and scientific expertise to the Competitive Research Grants Program. Born in Costa Rica, he earned Bachelor of Arts, Master of Science, and Ph.D. degrees in biology from Harvard University. He was awarded the Parker Postdoctoral Fellowship from Harvard University and upon completion of research on coffee diseases at the Instituto Biologico in Sao Paulo, Brazil, he became assistant plant pathologist for United Fruit Company. Over an 8-year period, he progressed to Director of the Coto Research Station in Costa Rica. During his 27 years at the University of Wisconsin in Madison, he moved through the ranks to become J.C. Walker Professor in the Departments of Plant Pathology and Bacteriology. Dr. Sequeira has taught several courses at the University of Wisconsin, including disease physiology and plant bacteriology.

Dr. Sequeira was a National Science Foundation Senior Postdoctoral Fellow at the University of Reading in England and was a Resident Scholar at the Conference and Study Center of the Rockefeller Foundation in Bellagio, Italy.

Dr. Sequeira is a Fellow of the American Phytopathological Society and a member of the National Academy of Sciences. He has served as president of the American Phytopathological Society and was senior editor and editor-in-chief of "Phytopathology." He has been a member of the editorial boards of "Plant Physiology" and the "Canadian Journal of Microbiology." Dr. Sequeira has served on several committees for the National Research Committee for the International Union of Microbiological Societies.

Dr. Sequeira's collaborative research with numerous students and colleagues has covered a wide range of topics in the physiology of hostparasite interactions, including growth regulator metabolism and recognition phenomena. Most recently, the emphasis of his research has been on disease resistance in plants and on the molecular genetics of plant-pathogenic bacteria. Dr. Sequeira has participated in plant breeding research aimed at developing disease resistant varieties of potato and lettuce.

EXTENSION SERVICE

STATEMENT OF MYRON D. JOHNSRUD, ADMINISTRATOR

ACCOMPANIED BY:
DENZIL O. CLEGG, ASSOCIATE ADMINISTRATOR
RICHARD R. RANKIN, DEPUTY ADMINISTRATOR, MANAGEMENT

OPENING REMARKS

Senator BURDICK. It is now my pleasure to introduce the next witness. He hails from North Dakota State University, and I know we will be interested in what he has to say. Dr. Johnsrud.

Dr. JOHNSRUD. Thank you, Mr. Chairman. I appreciate the opportunity to appear before your committee again and discuss our fiscal year 1989 budget proposal for the Extension Service. As the previous people have indicated, you have my prepared testimony, and I am going to abbreviate that a bit in the essence of time.

As indicated in my testimony last year to this committee, the Cooperative Extension System was in the midst of a serious self-examination and renewal effort. This was largely in response to concerns expressed by the General Accounting Office, the Office of Technology Assessment, and others.

We have completed this examination and have identified several priority initiative areas. Our primary goal, which is shared by our extension leadership across the country and promoted for a long time by our clientele users, is to make our extension programs more effective and useful, which then serves as an element in undergirding our agricultural community, which is now competing in a global environment.

This morning, your committee was given a copy of a red booklet, which should be before each of you, that identifies the eight national priority initiatives, and on pages 2 and 3, these are summarized in terms of the eight initiative areas and the issues within each of those initiatives.

This effort involved both our extension staff around the nation in identifying these initiatives and Extension stakeholders, including industry, commodity groups, various organizations, state and local government, cooperating agencies, policymakers, volunteers, and others. In all, 200 organizations and individuals are involved, and if you have an interest, you can turn to pages 22 and 23, and you will see the long array of people who were involved in identifying these initiatives. So there has been extensive input.

I would hasten to add that those eight priority initiatives, as they show on pages 2 and 3, and reading from left to right, are listed alphabetically. We have not placed a priority order on those in terms of programming effort. We are looking at alternative agricultural opportunity; building human capital; competitiveness and profitablity to American agriculture; conservation and management of natural resources, family and economic well-being; improving nutrition, diet and health; revitalizing rural America and water quality. Those are the top headings, but the critical items are the issues under each of those. Those issues constitute the primary agenda for programming in the extension system.

As a result of this effort, we also set in place the strategic long-range planning process, a responsive, proactive framework for the future. As issues and concerns of the nation and people shift, we will then refocus our effort based on this strategic planning process.

ISSUES OF NATIONAL CONCERN

We will continue to identify emerging issues of national concern and those issues relevant to Extension's mission will be targeted for action. The driving force is the need to provide relevant informational, educational and problem-solving programs directed at such issues as the following, and I will just cite a few.

Integrated systems approach for more effective information delivery and to solve problems within the context of total agricultural production, marketing and management systems; in other words, a systems approach to the business of agriculture; helping rural families analyze and evaluate nonfarm employment opportunities as a supplement to their traditional livelihood; working with local officials to understand the interactions of land use and chemical use to water quality and to advise scientific strategies and programs pertaining to water quality.

Another issue would be reducing the incidence of foodborne illnesses by teaching food service personnel, food processors, and consumers recommended food handling, preparation, and processing practices; helping community leaders establish new opportunities in economic development, jobs, housing, institutional building, and human resource development.

These are examples of issues within those initiatives that we are addressing. As the cooperative extension system moves to this type of issue-based programming, it is reallocating resources to reach more clientele than before with programs that concentrate on solving problems.

The national extension initiative effort provides the environment within which the cooperative extension system can evolve toward a more effective process of problem solving than we have in the past.

The Extension staff at all levels in the system will have to take more risks, cooperate with all segments of the agricultural community and other clientele groups, develop coalitions and overcome constraints; in short, make things happen.

It is my observation that things are happening and we are moving in that direction with vigor.

1989 BUDGET PROPOSAL

Let me turn quickly to the 1989 budget proposal. The President's 1989 budget request for the Extension Service totals $299.5 million. This is a decrease of $58.4 million, or 16.3 percent below the fiscal year 1988 appropriations, which was $357.96 million. Specifically, our budget request basically maintains support for the extension core programs provided to both 1862 and 1890 Institutions. The proposed funding levels of $228.5 million under sections 3(b) and 3(c) formula funds is being complemented by proposed funding totaling $22 million, targeted for implementation of national priority programs in the following areas:

First, $10 million for national priority initiative projects, which will be used to fund highly focused and innovative projects dealing with the national priority initiatives and using the following criteria: High potential for problem-solving; integrated systems approach; research-based; targeted to multiple goals; involvement of public and private sector and full state matching.

Second, $10 million for agricultural competitiveness and profitability. We are requesting this to develop educational programs which will incorporate an interdisciplinary systems approach by integrating marketing, production, financial management and policy information, focusing on agricultural competitiveness and profitability. The proposed $10 million would be distributed as follows: 4 percent for administration and of the remainder, 80 percent will be allocated to states, using the Smith-Lever 3(b) and 3(c) formula which requires full matching, and 20 percent for special projects in support of this initiative.

Third, $2 million for rural revitalization, which is requested to increase the capacity of the state extension services to conduct rural revitalization programs. Funds will be used to increase staff expertise and to fund the special projects.

This proposed new funding, which will be required to be matched by states by an equal sum, together with the section 3(b), 3(c) formula funds, represent a net increase of almost $9 million over the fiscal year 1988 enacted levels for these basic programs.

These proposed levels will allow our state and local partners to address national priorities and respond at the same time to local and regional problems.

Consistent with the proposed research budgets, an increase of $947,000 is requested to expand Extension's effort in the pesticide impact assessment program. This program assures accurate benefit and use data are available to assist EPA with the assessment of pesticides and chemicals essential to agricultural production, and it also relates closely to current concerns about water quality.

In the recent times, we have implemented a number of expanded food and nutrition education program delivery improvements which will allow us to continue to reach critical clientele at a reduced level of funding.

This can be achieved by intensifying cooperation with food stamps, WIC and other programs; also through increased volunteer training and by blending the historic one-to-one interaction between the program aides and the clientele with small group settings and teaching tailored to the shortest possible timeframe.

PREPARED STATEMENT

The proposal will, in essence, terminate the current food stamp fund transfer for the EFNEP program. Finally, Mr. Chairman, we are extremely grateful to you and your committee for continuing support of our efforts in Extension. We will be glad to answer any questions regarding our budget proposal. Thank you.

Senator BURDICK. Thank you very much.

[The statement follows:]

STATEMENT OF DR. MYRON D. JOHNSRUD

Mr. Chairman and members of the committee, I appreciate the opportunity to discuss with you the President's proposed fiscal year 1989 budget for the Extension Service.

I indicated in my testimony last year to this committee that the Cooperative Extension System was in the midst of a serious self-examination effort. This is largely in response to critical concerns raised by the General Accounting Office, the Office of Technology Assessment, and others. We have completed this examination and have identified several priority program initiatives.

Our primary goal, which is shared by our Extension leadership across the country and promoted for a long time by our own clientele users is, of course, to make Extension programs more effective and useful, serving as a key element in undergirding our agricultural community which is now competing in a global environment.

Through identification of eight National Priority Initiatives, Cooperative Extension creates a more focused program. This effort involved both our Extension staff around the nation and Extension stakeholders—industry, commodity groups, organizations, state and local governments, cooperating agencies, policymakers, volunteers, and others deeply involved with Extension. These program initiatives, listed alphabetically, are:

Alternative Agricultural Opportunities
Building Human Capital
Competitiveness and Profitability of American Agriculture
Conservation and Management of Natural Resources
Family and Economic Well-Being
Improving Nutrition, Diet, and Health
Revitalizing Rural America
Water Quality

This effort also sets in place a strategic, long-range planning process—a responsive, proactive framework for the future as the critical concerns of the nation and people also shift and refocus. Through strategic planning, Extension will continue to identify emerging issues of national concern. These issues, relevant to its mission will be targeted for action.

The driving force is the need to provide relevant informational, educational, and problem solving problems directed at issues such as:

Providing educational programs utilizing interdisciplinary approaches for more effective delivery and to solve problems within the context of total production, marketing, and management systems.

Developing producers' knowledge of basic economic principles and increase understanding of policies affecting agricultural trade.

Helping rural families analyze and evaluate nonfarm employment opportunities as a supplement to their traditional livelihood.

Working with local officials to understand the interactions of land use and chemical use to water quality and devise scientific strategies and programs pertaining to water quality.

Enabling consumers to minimize nutritional inadequacies and abuses in foods, diets, and supplements and teaching them to recognize and use reliable nutrition information.

Reducing the incidence of foodborne illnesses by teaching food service personnel, food processors, and consumers recommended food handling, preparation, and processing practices.

Teaching young families and the working poor the financial, management, and personnel skills required to become and remain self-sufficient.

Encouraging farmers to adopt conservation practices and reduce soil erosion.

Helping community leaders establish new opportunities in economic development, jobs, housing, institutional building, and human resource development.

Increasing the ability of both adults and youth to develop the self-confidence needed to resist such societal problems as drug and alcohol abuse, school dropout, child abuse, teen pregnancy, and suicide.

As the Cooperative Extension System moves to this type of issue-based programming, it is reallocating resources to reach more clientele than before with programs that concentrate on solving problems.

The National Extension Initiatives effort provides the environment for the Cooperative Extension System to evolve toward a more effective process of problemsolving than in the past. Extension staff at all levels of the system will have to take more risks, cooperate with all segments of the agriculture community and other clientele groups, develop coalitions, and overcome constraints; in short, make things happen.

FISCAL YEAR 1989 BUDGET PROPOSAL

The President's fiscal year 1989 budget request for Extension Service totals $299,542,000. This is a decrease of $58,421,000 or 16.3 percent below the fiscal year 1988 appropriation of $357,963,000.

Our budget request basically maintains support for Extension core activities provided under formula payments to both 1862 and 1890 institutions. The proposed funding level of $228.5 million under section 3b and 3c formula funds is being complemented by proposed new funding totaling $22 million targeted for implementation of National Priority Programs in the following areas:

$10 million for National Priority Initiatives Projects—The proposed $10 million will be used to fund highly focused and innovative projects dealing with the national priority initiatives and using the following criteria: high potential for problem solving; integrated system approach; research-based; targeted to multiple goals; evaluation component; involvement of public/private sector; full state matching.

$10 million for Agricultural Competitiveness and Profitability—Requested to develop educational programs which will incorporate interdisciplinary systems approaches by integrating marketing, production, financial management, and policy information focusing on agricultural competitiveness and profitability. The proposed $10 million would be distributed as follows: 4 percent for administration and, of the remainder, 80 percent will be allocated to states using the Smith-Lever 3b and 3c formula with required full matching, and 20 percent for special projects in support of this initiative.

$2 million for Rural Revitalization—Requested to increase the capacity of the State Extension Services to conduct rural revitalization programs. Funds will be used to increase staff expertise and to fund special projects.

The proposed new funding, which will be required to be matched by the states by an equal sum, together with the section 3b and 3c formula, represents a net increase of almost $9 million over the fiscal year 1988 enacted levels for these basic programs. These proposed levels will allow our state and local partners to address national priorities while responding at the same time to local and regional problems.

Consistent with the proposed research budgets, increased funds are being requested to expand Extension's effort in the Pesticide Impact Assessment Program (+$947,000). This program assures that accurate benefit and use data are available to assist EPA with the assessment of pesticides and chemicals essential to agricultural production and relates closely to current concerns on water quality.

We have implemented a number of EFNEP delivery improvements which will allow us to continue to reach the critical clientele at a reduced funding level. This can be achieved by intensifying cooperation with food stamps, WIC, and other programs; increased volunteer training; and, blending the historic one-to-one interaction between EFNEP aides and clientele with small group program setting and, with teaching tailored to the shortest timeframe possible. Our proposal will, in essence, terminate current food stamps funds transfer for the EFNEP program.

We are extremely grateful for the continuing support of this committee to our efforts in Extension. We will be glad to answer your questions regarding our budget proposals.

GROUND WATER QUALITY

Senator BURDICK. Senator Kasten.

Senator KASTEN. Mr. Chairman, thank you very much. I appreciate the fact that you will allow me to ask a few questions before you, as chairman, go ahead. I appreciate that very much, and I thank you. I wanted to ask a question of both Dr. Kinney and Dr. Bentley. I am happy that we are beginning to see that USDA is going to be devoting some resources to ground water quality problems.

Let me specifically ask Dr. Kinney, what are we going to do? What is the research? Can you tell us exactly what you are seeking to do, maybe in 30 or 45 seconds, because I have got a series of questions on this point.

Dr. KINNEY. We can submit for the record a complete rundown, but basically, the ARS responsibility is to work with the Soil Conservation Service; with the universities; with the Conservation Districts and others to determine the fate of pesticides in the soils, different types of soils.

So we are going to work on a national basis looking at geophysical areas, at all aspects of the fate of chemicals on soils.

RESEARCH AT THE LOCAL LEVEL

Senator KASTEN. I am happy you mentioned the local groups. Basically, we have got two, I think, important problems here. Maybe there are more than two. One is tolerance standards for health purposes, how pesticides or fungicides or other contaminants affect human health. I think that research on this question ought logically to be done on a national level.

In other words, the pesticide residue is going to have the same kinds of health impact on consumers in Wisconsin, as in Florida or Maine.

But the other part of this issue is how these chemicals get into the ground water; how long they stay in the ground water before breaking down organically; how they move through the ground water, that whole set of issues. It seems to me that the answers to these questions depend largely on local circumstances.

Soil is different in Arizona than it is in Wisconsin. You have got subsoils that differ; water table levels are different. Acidity levels are different in different parts of the country. This whole set of issues needs to be dealt with primarily at the state or local level by universities, like the University of Wisconsin.

Dr. KINNEY. Yes, that is true.

Senator KASTEN. My question is: Shouldn't we be or couldn't we be working not through ARS, necessarily, but also through CSRS with this research? Can you take me through the reasoning by which you wound up putting all of the money in ARS as opposed to CSRS, where I think some of these issues ought to be dealt with.

Dr. KINNEY. Senator, let me just briefly comment that for many decades, ARS has played a lead role at more than 20 locations throughout the United States in various aspects of ground water quality.

But most of that has been in cooperation with soils departments in the land-grant institutions, so that we both have a role to play. In addition, we have the responsibility for satisfying the needs of the Soil Conservation Service and the Conservation Districts, for their technologies.

Someone has to bring all this information together at the national level, and we do that in working with the state agricultural experiment stations, the Soil Conservation Service, and others. So I don't think it is an either/or situation, and it may be that this year, we just happen to give top priority to the ground water quality, as we have for the last several years.

Senator KASTEN. I just looked at the $5 million all being in ARS, and I just wanted to be sure the universities' point of view was understood. I appreciate your answer to my question. Because what you are saying to me is that despite the fact that it looks like all the research might be conducted in Beltsville, MD, or someplace else, that is not the case.

Dr. KINNEY. No, it is not.

Senator KASTEN. You are working across the board?

Dr. KINNEY. Right.

Senator KASTEN. I don't object to you or EPA doing the work here on tolerance levels. I think we have got to figure that out on a federal basis. But the other questions relating to the whys and wherefores or ground water contamination are different, and they are important. First of all, I am happy that ARS is getting into it. This is an important problem in Wisconsin and other places; it is vital for our state and others that a program of research on ground water quality is accelerated, and I commend USDA for the start you are making now in the 1989 budget.

I look forward to working with you on this subject.

STRATOSPHERIC OZONE DEPLETION

I have one final question of Dr. Jordan. You have budgeted $7.4 million for research on the effect of stratospheric ozone depletion on crops and forests. I have done a little work on tropical forests in Brazil and other places. I commend you for this initiative. The depletion of the Earth's ozone layer is a serious long-term problem that needs attention.

Could you tell us, first of all, how this initiative developed; what kind of research, specifically, you have in mind; and how you ended up with $7.4 million?

Dr. JORDAN. Senator, the initiative is not only derived from within the CSRS system, including the universities, but also in response to the request by the Environmental Protection Agency. EPA is concerned about three areas having to do with the impact of increased ultraviolet light on crops, on aquaculture, and finally, on forest products, trees, forest biological systems, and so forth. It is in response partially to these concerns that the initiative comes forward. What it says, basically, Senator, is that we know a fair amount about the effects of increased ultraviolet light on skin, skin cancers, animals, human beings, and so on. What we don't have a very good handle on is the impact of increased ultraviolet light on plant life, particularly crops and so forth. This is an attempt to quantify and know at the front end what the potential impacts will be.

Senator KASTEN. Mr. Chairman, thank you very much. I have a couple of technical questions that I would like to have submitted for the record. I appreciate having the opportunity to ask these questions ahead of you. Thank you.

Senator BURDICK. I would say to the whole entire panel—we have a right to submit questions, and we expect a reply in a brief period of time.

Senator Harkin.

STATEMENT OF SENATOR HARKIN

Senator HARKIN. Thank you very much, Mr. Chairman. Mr. Chairman, I have an opening statement I would like to submit for the record.

Senator BURDICK. Certainly, it will be received.

[The statement follows:]

STATEMENT OF SENATOR HARKIN

Mr. Chairman, agricultural research and the distribution of the benefits of that research through the Extension Service are of great importance to American agriculture.

In the Midwest, we are just coming out of a very difficult economic period. But, we are by no means in economic health.

Our farmland is like a factory. Farmers have three choices; They can continue to produce the same products at full production and watch their prices fall, they can cut back leaving a significant amount of land idle, or they can retool their factory and find new uses for their capacity. In the long run, the last option, diversification, is clearly the best.

In the 1970's, diversification meant moving into the world market through trade. Now, we know the limitations of that effort. Certainly, we must expand our agricultural trade to the extent possible, and considerable knowledge and research is needed in that area. But, I believe that we must diversify by finding new nonfood uses for our agricultural products. That is the route that can allow farmers to make full use of their resources and provide a maximum benefit for our nation.

Farmers must also protect their greatest resources, their land, water, and a clean environment. And, happily, this can to some extent be done in ways that will actually reduce their costs.

We must find new efficient ways to control infestations without harmful chemicals, we need to reduce what we add to the land that pollutes the water, and we must change our methods of farming to save our irreplaceable topsoil.

A large part of the answer to our problems in both areas, diversification of products and protection of our resources, rests with research. We are very fortunate that scientific breakthroughs in recent years have given us the tools to reach our goals.

We must continue our basic research efforts. And, we must target our applied research toward our goals. We must look at what is likely to be done by the private sector and place government efforts elsewhere so our resources can be maximized.

Last, and perhaps most important of all, successful research needs to reach the field. The Extension Service has done a great job of bringing the latest advances to farmers. That must continue. And, we also need to bring the latest advances to industry as well.

When I look at the proposed budget, I do not see a clear direction aimed at where agriculture must go. I see too much of an emphasis on the past and not enough on the future.

INTERNATIONAL AGRICULTURE TRADE DEVELOPMENT CENTERS

Senator HARKIN. Dr. Bentley, if any of these questions are such that you would feel better submitting a written answer later on, just tell me, and it will be perfectly fine.

How is the administration progressing in the implementation of the International Agriculture Trade Development Center Program authorized in the 1985 farm bill?

Dr. BENTLEY. There are some recommendations and programs that have been developed. I would prefer, if I might submit that as a written response, not because I don't think that it is moving ahead at the appropriate pace, but I can't give you the detail that I can give with just a little review of the materials, if that would be all right, Senator.

Senator HARKIN. I would appreciate that very much, because I just wanted to find out why the administration did not request funding for these centers this year and whether it was at the request of the Department of Agriculture that they not be funded. If you can submit that to me I would appreciate it.

Dr. BENTLEY. Yes, sir.

[The information follows:]

INTERNATIONAL TRADE DEVELOPMENT CENTERS FOR AGRICULTURE

Funds were appropriated in fiscal years 1987 and 1988 for seven International Trade Development Centers for Agriculture. Two were funded in fiscal year 1987: The Northern Crops Institute at North Dakota State University and the International Trade Development Center at Iowa State University. The former received a grant for equipment to use for demonstration purposes. The equipment is used to obtain technical information on durum wheat milling and the mixing of animal feeds from regionally produced grains. The information is used to develop products that will be more readily acceptable in export markets. The latter grant is to develop programs and conduct research to enhance exports of agricultural and related products produced primarily by small to medium-sized businesses in Iowa and the Midwest.

Four additional centers were funded in fiscal year 1988 along with the appropriation of funds for an existing trade center funded in fiscal year 1986 at Oklahoma State University. The four additional centers are proposed for Washington State University (IMPACT), University of Washington (CINTRAFOR), University of Kentucky, and the Mid-America World Trade Center in Wichita, Kansas. CINTRAFOR is an operating program to enhance the export of forest and wood products. IMPACT is intended to enhance the export of specialty crops. The University of Kentucky center is expected to concentrate its efforts on the export of breeding stock and specialty crops. The Mid-America center is a nonprofit organization that will cooperate with seven states to enhance the exports of various commodities and products produced in those states. Proposals for grant applications have been requested from these institutions.

Funds for trade centers have not been explicitly requested in prior budgets by the administration. The Hatch Act formula program provides states with the discretion to use funds for research programs judged to be of a high priority for their state or region. These funds may be used for international trade and marketing research purposes.

HUMAN NUTRITION RESEARCH CENTERS

Senator HARKIN. I also want to ask about the Human Nutrition Research Centers. Which of the Human Nutrition Research Centers operated by the Agricultural Research Service presently has a major focus in the area of food selection and health maintenance? In particular, which of the centers presently focuses its efforts on developing the knowledge base necessary to assist the general population in selection of the best foods, not necessarily the best nutrients, from which one can maintain a healthy life?

Again, I would be glad to submit this in writing to you, if you would like to have it, and you can respond in writing. Perhaps that is the best way.

Dr. KINNEY. I think, Senator, we would prefer to respond in writing.

[CLERK'S NOTE: See submitted questions.]

SOIL TILTH LABORATORY

Senator HARKIN. I have a number of questions here, Mr. Chairman, that I would like to submit in writing. But perhaps you can just answer this last one off the cuff. We have a soil tilth laboratory that is completed at Iowa State University. It is now ready, but I understand there is no funding for the soil tilth research. Can you tell me why that is?

Dr. KINNEY. That laboratory has just been completed, Senator, and we are working with the Iowa State people to develop the specific plans for the laboratory. We need $3.5 million to support about 20 scientists at that facility.

Senator HARKIN. Is that what you are recommending?

Dr. KINNEY. That is what is required for operating the facility at optimum capacity as it is planned. We are not recommending that level of funding in this budget.

Senator HARKIN. Why not?

Dr. KINNEY. Probably for the same reason, Senator, that we didn't request funding for a number of other facilities that are coming on board. It was something that we had to defer given the priorities.

INDUSTRIAL USE OF AGRICULTURE PRODUCTS

Senator HARKIN. As you know, I have a considerable interest in biotechnology. We have discussed my bill, S. 970, before, Dr. Bentley. In the May 15 hearing that I chaired last year, you submitted a fiscal year 1987 table on ARS research and utilization and another table on the support of new crops.

I was looking at this table on page 19 of the hearing transcript from last May. It shows $102,204,000 for research on commodity conversion and delivery. The thrust of S. 970 is to look upon nonfood uses of crops. At the hearing last year, I mentioned the disparity between the research on growing crops and research on nonfood uses.

I think maybe there was a misunderstanding, because this table includes also, obviously, food uses. Could you help now by breaking down for me again how much research is being done on finding new nonfood uses of crops? I would like to have a look at that.

Dr. BENTLEY. Senator, we can do that. We now have information on nonfood uses. Of course, you speak to something that I personally think we should be investigating more and will have to give more attention to in the future. Sometimes it is more difficult.

I have just been handed a note that it is estimated it is about 20 million dollars' worth of research being done on nonfood uses in ARS.

Senator HARKIN. $20 million?

Dr. KINNEY. That is just ARS.

Dr. BENTLEY. $20 million, but we would like to fill out the record; we would respond in a full report, but it is roughly that amount of that sum that was given before. Then, of course, there is work on nonfood uses being done in the state agricultural experiment stations with both state and federal funding of grant funds, as well.

Senator HARKIN. I just want to get a better handle on that $20 million. What is the total ARS budget?

Dr. KINNEY. About $540 million in 1988.

Senator HARKIN. So $20 million of that is for nonfood uses. That is the disparity that I am talking about; it is a gross disparity. Anyway, that is what S. 1970 is designed to do—to eliminate that disparity. Let me just cover a few selected items. On the first list that you had here, research for processed nonfood was $12.668 million. That was fiscal year 1987. I am referring to this table on page 19 of last May's hearing.

What would be the figure for the fiscal year 1989 budget proposal for that line? Again, I am getting into specifics, and you probably don't have a handle on it, but I would like to get this information back from you.

Dr. BENTLEY. We can get this for the record.

RESEARCH ON NEW CROPS

Senator HARKIN. It is my information that a number of these have been cut. I would also like to know what is included in that category. There was one here, $2.7 million for new crops.

I would like to know what the fiscal year 1989 funding is for that. I understand that funding is down, and I would like to know: Why the decrease? I am raising these issues because it is a public record; because I want to find out why there was a decrease in some of these lines.

Dr. KINNEY. Senator, if I could briefly respond, you said $2.9 million?

Senator HARKIN. $2.731 million you have listed here for new crops. That is fiscal year 1987.

Dr. KINNEY. Yes; that is the ARS portion of the budget only. And that is not being decreased.

Senator HARKIN. That is true, yes.

Dr. KINNEY. And that is not being decreased. There may be a decrease elsewhere, but not in ARS. The 1988 figure, according to our budget, in ARS is $3.6 million, $2.9 was 1987; essentially $3 million in 1987; $3.6 million in 1988, and we did not ask for an increase in 1989, but we don't intend to decrease it, either.

Senator HARKIN. So it is the same in ARS, right?

Dr. KINNEY. Right.

SUPPLEMENTAL AND ALTERNATIVE CROPS

Senator HARKIN. I am also told that CSRS is being reduced; that alternative crops research is going from $0.7 down to $0.4; is that right?

Dr. JORDAN. That is correct.

Senator HARKIN. What is the correlation between this and ARS? This is alternative crops research. How does that correlate with the new crops research under ARS?

Dr. KINNEY. Our new crops research program is a basic program that is conducted at a number of locations, about 13 different locations, throughout the United States. We are working on about nine different new crops and have been for many years, so that the work that CSRS is involved in, while it is cooperative, it is really a separate effort that is primarily at the university system.

Senator HARKIN. Is there any duplication?

Dr. KINNEY. No.

Dr. JORDAN. No; the university component of this carries it out into the demonstration phase, Senator. It takes much of the information developed by both the University Research Program and ARS and puts it together into a format that will be most understood by industry and allows them to determine whether, in fact, it makes sense for them to invest in it.

Senator HARKIN. I just see that Alternative Crops Research and the Ag Trade Centers have been zeroed out there.

BUDGET DECREASES

Then you have the critical Ag Materials Act, cut from $4.9 million down to $0.7 next year. That is a big cut from $4.9 million down to $700,000.

Dr. JORDAN. The $4.9 million, Senator, includes the Polymer Institute at the University of Southern Mississippi; the Center for Physical Acoustics at the University of Mississippi, and the guayule research program. The guayule program is in the budget request for fiscal year 1989.

Senator HARKIN. Perhaps Senator Cochran would like to know, and I would as well, why are these programs the only ones being cut out?

Dr. JORDAN. The facility construction at the Polymer Institute will be done.

Senator HARKIN. All right.

Dr. JORDAN. It will be a completed project.

Senator HARKIN. I see. That is a decrease.

Dr. JORDAN. It is because the work is done.

Senator HARKIN. I see. Is there any decrease at all in the research portion of that $4.9 million?

Dr. JORDAN. No, sir. The guayule research program funding level of $668,000 in 1988 will be maintained in 1989.

Senator HARKIN. None whatsoever?

Dr. JORDAN. That is correct.

Senator HARKIN. Any increase?

Dr. JORDAN. No. It is exactly the same figure, sir.

COMPETITIVE RESEARCH GRANTS

Senator HARKIN. I see. One more thing, Dr. Bentley, and also Dr. Jordan, on the CSRS budget. The budget document indicates you intend to spend $21 million in CSRS for competitive grants and biotechnical research. It is an increase of $2.6 million over last year. Can you provide a division of the funding between, again, nonfood product-oriented research and food product research on that? Can you provide me with a breakdown of that?

Dr. JORDAN. If I may do that for the record, Senator, our normal way is dividing the biotechnology program by plant and animal categories. We can do it on food and nonfood uses. The basic research, a great deal of it will be a matter of some interpretation, but we will try to address it with good logic and lay it out for you.

[The information follows:]

COMPETITIVE RESEARCH GRANTS

The fiscal year 1987 competitive research grants in the biotechnology category were split $6.6 million for animal and animal-associated organisms and $11.4 million for plants and plant-associated insects and microorganisms.

All of the animal biotechnology research would be considered food product research as a majority of the projects are carried out directly on food animals or their infectious organisms. Even a project that uses nonfood animals as an experimental system has an ultimate objective to understand problems in food animals.

In the plant research areas, $2.8 million was spent on research directly related to food products, and $0.3 million on research directly related to nonfood products. The remaining research projects addressed biotechnology problems in general using various plants ($4.7 million), plant-associated insects ($0.8 million), or plant-associated microorganisms ($2.8 million) as experimental systems. The results from these research activities would apply to both food products and nonfood products. For example, studies on secondary metabolites in plants may lead to the development of new crops that produce chemicals used for industrial or medical purposes; basic understanding of cellulose synthesis in plants may lead to improved fiber-producing crops; and fundamental research on genetic engineering in plants will provide basic information necessary to develop new uses for crop plants.

NONFOOD USES

Senator HARKIN. I would appreciate that. Dr. Bentley, as we look to using agricultural materials for nonfood uses, I think we have to look not only at modifying plants and materials from the plant, but at the whole system, from beginning to end, down to the types of waste that are being produced.

Let me just give you an example. There is a facility being built in

Cedar Rapids, IA, to use fermentation to make certain catalysts. I don't know that I understand all of that.

This would make it easier, believe it or not, to make artificial snow for recreational services. It is a value-added product they get from corn. The problem is, that in doing this fermentation process, there is waste material that is very high in protein, as I understand it. Yet what they intend to do with this waste material is just sort of dump it into the sewer system.

Cedar Rapids' sewer can handle it, but it sort of puts them right to the limit. There ought to be some way that you can take that protein and other material that is left over and do something with it.

If we can find some ways to cut down on this waste and find some way of reducing the cost of the fermentation, then perhaps many new products can become viable. I mention that only because there is a whole stream, to use an analogy, and I think that we shouldn't just look at the beginning of the stream, but on down the stream, where there may be some research components that would help in the non-food uses of the plants.

Again, I just want to bring that to your attention as other areas to look at in this kind of research. What I would like to know is, are there any limits, legislatively or otherwise, to your funding some kind of competitive grants or the like in those areas that would be downstream, let's say, from the initial agricultural component?

Dr. JORDAN. Senator, CSRS has the responsibility for those, and the mechanisms range all the way from very fundamental research, which we generally tend to do in a competitive mode, to targeted programs in the special grants program, which also undergo merit review, to the formula-based programs, to those that go into the demonstration arena so we have a capacity and an authority, Senator, to do each and every one of those levels.

Senator HARKIN. So the answer is that basically, there is nothing really restricting you from doing that?

Dr. JORDAN. That is correct, sir.

Senator HARKIN. Sir?

Dr. BENTLEY. Can I just comment? No, there is not. I don't know of any restrictions. There are restrictions of money, of course, to do work on that. This is something I agree with very much, but you have to look at the total change that the system would make. We find this in connection with the alternative energy uses, and in various places we have to think about the total system.

There have been some innovative things done in industry. One group in Decatur, IL, is using the effluent of this type for production of vegetables in greenhouses. It is most profitable to do it during the winter season because of the sale of the products from that particular location.

Now, that is not as easy to do in hydroponics. People thought at the beginning that they could just put up some equipment and put the material through and the vegetables would grow. They found out that you have to be very careful how you control all of these items. I think that a few times they experienced a complete die-off of a whole greenhouse and material because somebody didn't watch some of the various parameters as far as the nutrient media is concerned.

That is one illustration of things that we can do. Then there is a matter of whether you can find ways of concentrating protein and getting it out. There is an economic side, because you are usually dealing with a great deal of effluent water, and that costs money to handle. Of course, we dry it down to transport it.

So I agree with you. There is a whole series of these things, and if we can find better ways to use them, we can then begin to charge off some of the costs of the nonfood use product. We all have to remember that when using proteins for animal feeds, we have got some very good sources, and natural ones, soybeans being a good example of it. Also, you have got a price on competition to look into, but that doesn't mean we shouldn't continue to look at them. I think that we will see changes in this, especially if we have the capability to manipulate organisms, to do things. We are even talking about biopulping of timber products, which is something that, 25 years ago, I doubt if anybody ever dreamed could be done.

I think this is the time it arises and the reason we get so excited about some of the things we might be able to do in the future.

Senator HARKIN. I just want to compliment you on what you just said a little bit ago and on your history of trying to move into more research of nonfood uses, I believe. I would hope that we would, both ARS and through CSRS, move more in that direction and get a better balance of these research dollars for nonfood uses of some of these products.

USES OF STIRLING ENGINE

I will just wrap up, Mr. Chairman, by saying you mentioned alternative energy uses. I have a long and abiding interest, from my days on the House side where I was on the Science and Technology Committee, in the uses of the Stirling engine. In July 1987, you published a request for proposals for external combustion engine research, for development, to use solid fuels for agricultural water pumping.

I have a series of questions here dealing with that. I want to know how many proposals you received and how many were from universities; how many grants were given out; some of the tradeoffs between diesel fuel and the costs of this. Again, I don't have the time here, but I would like to submit these to you and get some information, because I think this is another area, alternative energy uses, using external combustion engines, that we should look at.

Dr. BENTLEY. We are already preparing responses to questions on the external combustion engine research asked at this subcommittee hearing with Secretary Lyng.

Senator HARKIN. Is that on that specific subject?

Dr. BENTLEY. Yes; the questions are on the external combustion engine and we will be glad to respond to your questions.

Senator HARKIN. Again, I want to compliment all of you on moving in this direction.

Dr. BENTLEY. If I can summarize, we would thank you for trying to do that and take a look at it. We don't wish to move precipitiously; we want to be realistic and try to make sound decisions, and sometimes you have to think it through rather carefully because there may be more ramifications. What seems to be a simple solution can have a lot of other ramifications.

You have already referred to some of them; the economics of it; there is the scientific validity of the idea and all of that that needs to be considered. We are doing it, and I assure you we think this is an important area to investigate. We have been doing it for a long time, but we think it has got a renewed significance for right now.

Senator HARKIN. If I could just get your support for S. 970? Thank you.

Thank you, Mr. Chairman.

Senator BURDICK. Senator Cochran.

Senator COCHRAN. Mr. Chairman, I know the hour is getting late, and I appreciate very much your recognizing me. I am going to make just a few brief comments and then submit all the questions I have so that they can be answered and included in the record. I shall not take up the time of the committee or the witnesses with my questions.

FISCAL YEAR 1989 BUDGET ITEMS

I see that the ARS budget is reduced by about $26.5 million, primarily due to lack of requests for buildings and facilities funds. However, I am pleased to see an increased interest in the funding for the areas of improved ground water quality, pesticide application techniques, and new test methods to detect bacterial residues in foods. These are very important areas of research, and I am glad to see that the Department continues to place a high priority on them.

In the Cooperative State Research Service, I am also pleased to note an expanded Competitive Grants Program to provide increased emphasis on biotechnology, plant and animal sciences, and human nutrition.

There is even a small increase of $2 million for the 1890 Institutions to support research on rural and small-scale farming issues. However, I am disappointed, but not surprised, to see that CSRS and Extension Service special grants have again been eliminated.

With regard to the Extension Service, I feel that at no time has there been a greater need for the transfer of new technology to the agriculture producers than now so that they can maintain profitability and competitiveness in world markets.

Last year, there were some small increases provided to the states through the Smith-Lever formula funds. Funding for programs, such as the Integrated Pest Management, Pesticide Impact Assessment, financial management and renewable resources allowed the states to continue quality programs that have been so successful in the past.

Continuation of EFNEP, Expanded Food and Nutrition Education Program, allowed for expansion and strengthening of the nutrition programs to low-income people in our states. The Rural Development Centers received small increases to address revitalization in rural America.

I worry that we may not be providing the leadership reflected in the budget that is necessary to help meet these needs in our states. Other than that, I am going to submit these questions and observations. Some of the issues I have touched on are old ones like fire ants, but I see that maybe we have some progress in that area, Dr. Kinney. I am hopeful that we can come up with an effective control agent in that area. So that is one area I have touched on, and you get a chance to tell us what is going on in many of these areas.

I notice that Dr. Kinney, who has been the ARS Administrator for 7 years now, is retiring. This is his last appearance before the committee, and I just want to commend you for the fine work you have done and wish you well in your future activities.

It has been a pleasure seeing you on these occasions and working with you during your tenure as Administrator of ARS.

Dr. KINNEY. Thank you.

Senator COCHRAN. Mr. Chairman, I don't have any other comments, but I would like to submit these questions for the record. I also have some questions from Senator Hatfield. He would like to have them answered for the record. Thank you very much.

GROUND WATER QUALITY

Senator BURDICK. I have one last question, and I will submit the balance of my questions for reply. One of the big issues that I believe affects all three agencies here is that of water quality research and management. Last year, the conference committee noted the importance of water quality research and asked the President to submit a budget request reflecting the importance of the fiscal year 1989 budget.

The President has done that and has requested an increase to improve ground water quality through the Agricultural Research Service. The experiment stations and the state universities and land-grant colleges are proposing a $25 million initiative on water quality through the Cooperative State Research Service and $15 million for extension work related to water quality. They cite this issue as a No. 1 priority for the nation.

What is your assessment of the water quality situation in this country?

Dr. BENTLEY. I would like to just make a few comments, Senator. Of the issues that have been identified as high-priority issues through our whole process, whether it is the Joint Council and so forth, is one of water quality.

It has been identified as a need, and I think there is a lot of redirecting of effort within the state systems, both in Extension and the CSRS, to address that issue, as well as the funding within ARS.

We are also working with the other agencies of the government to try to get better communications through a joint effort, so that we can maximize the utilization of resources that we have, data bases, both from the past and present, so we can address that issue. It involves working with EPA, working with the USGS, outside of the agencies, to some degree, the National Science Foundation, but there is also a need to bring these kinds of activities together, and we have a working group within the Department.

I have asked my associate, Mr. Bob Long, who is here beside me, to be the one to give special attention to this with regard to the research and education activities. I think there is going to be a need for continued funding of this program over time, because it is very important that it addresses agricultural issues but also issues related to the waste disposal systems, toxic wastes and so on.

It is a complicated issue because of the variability. I believe that Senator Kasten pointed out so well a great variability of soils and a great variability in the biological systems involving water. I think it is an area of continuing interest and concern.

DIRECTION OF WATER QUALITY RESEARCH

Senator BURDICK. What direction do you feel that this water quality initiative should take?

Dr. BENTLEY. I will first attempt to answer and ask my colleagues to add to my remarks. One of the first pressing issues is to find out what is happening to complex organic materials as they percolate through the soil. There are some serious questions about when it has been degraded in the soil and its influence of how it moves within the soil and later down into the water table.

There have been some very interesting studies that show the movement of materials is extensive and that it is hard to predict exactly what is happening. One of the reasons is we are beginning now to find residues of materials that had been used 30 years ago starting to show up in the water supplies in some places.

That is the nature of the problem. I think that has to be studied. Our major emphasis in the past has been on smaller ions. Inorganic ions, for example, are minerals. Now we have to look at these other complicated issues.

That is one issue, how does it move; what is happening, so we have a better data base. Then, of course, it is a matter of what can we do now to prevent problems, say, 10 to 15 years from now. We want to know how these things happen. I am thinking about the agricultural applications. Many of the products can be modified—the way we apply and utilize these products. That is one area, the systems of farming and agriculture is another area that is being looked at.

So these are three general ones. Mr. Long, do you care to add to that?

Mr. LONG. Mr. Chairman, only to the extent that we have a different issue in front of us than we have examined through research and other efforts in the past. In the past years, we have looked at water quality primarily from the agricultural standpoint, of the salt content and degradation of the water quality from the standpoint of its use in agricultural production.

What has come into the circle in the last few years, and it has caused you and the rest of us considerable concern, is that organic compounds, frequently referred to as pesticides, are now showing up in water in various areas, including our drinking water. That is a deep concern. There is a great deal that we have to learn about this, and we do not know what we need to know at this point in time.

Considerable research effort on our part and on the part of others and also what we can tolerate in terms of these materials will be, in the years ahead, one of the important issues.

Senator BURDICK. Senator Grassley.

SOIL TILTH LABORATORY

Senator GRASSLEY. Thank you, Mr. Chairman. I would like to say to the members of the panel from USDA, that I am sorry that I was not able to be here for your opening statements. I probably am asking some questions that were previously asked, as I know for sure that Senator Harkin had asked you questions earlier about why funding was not included for the Soil Tilth Center.

As a followup of Senator Harkin's question, I would like to state that I have received a letter this week from Peter Myers, the Deputy Secretary, following up on several questions that I asked Secretary Lyng last week.

I had asked the Secretary if the Department was still committed to a continuation of the Soil Tilth Laboratory at Iowa State University. Mr. Myers' response indicates that the Agricultural Research Service has been working with Iowa State scientists to prepare a plan for the staffing and operation of the center.

Could you tell me something about this plan and the status of the implementation?

Dr. KINNEY. Senator Grassley, let me comment briefly. Last year, we redirected out of management savings over $400,000 into that laboratory. We currently have five scientists and about $1 million committed to that facility. It is about 50 percent completed. We expect it to be completed in October of this year.

As part of the fiscal year 1989 budget request, $400,000 and about two scientists of the $4 million ground water quality package are scheduled for that Soil Tilth Laboratory. So we will have about $1.4 million and 7 staff-years, about one-third of the full operation. We expect to complete that in increments as quickly as possible.

As I said earlier, we are working with the colleagues at Iowa State and at other locations to develop the final program there.

Senator GRASSLEY. OK. I just hope that the Department will do everything they can to work out the funding so that we can assure the operation of the facility as intended and, hopefully, on time.

PLANT SCIENCE CENTERS

Dr. Jordan, you discussed earlier the Department's support for the Joint Plant Science Centers. I know, then, that you had an expression of interest in this program, and I appreciate that. If you could go into more detail about these centers, I would be interested to know USDA's long-term plan for the development and utilization of these centers.

Dr. JORDAN. This is a joint program involving NSF, DOE, and USDA. The fiscal year 1989 proposal totals $10 million for the three agencies. The intent is to focus on centers without walls. We are talking about intellectual centers, not about geographic ones, per se. We are talking about cooperative programs put together with scientific talent from wherever it may be.

The expectation is that these will be funded in the range of $0.5 to $2.5 million per year and will be selected from a set of proposals that will be reviewed jointly by the three agencies, ranked and then the issue of which centers will be funded by which agency will be determined after the selection process has been completed.

Dr. Bentley has given national leadership to this, in cooperation with Mr. Erich Bloch from NSF and their counterparts in the Department of Energy. We are talking about basic fundamental knowledge in the plant science areas, and Dr. Luis Sequeira will be the chief scientist that initiates this program.

Senator GRASSLEY. I am going to submit something for the record. Are you finished?

Dr. JORDAN. Yes, sir.

Senator GRASSLEY. I am going to submit for the record an internal Department of Agriculture memo that inspires great concern. I think this memo indicates there is an awful lot of foot-dragging in the Department regarding these Plant Science Centers.

For instance, just some statements, although I am going to include the entire memo in the record.

> We conclude that no funds have been dedicated to the establishment of Plant Science Centers. There was no reference request or comment made regarding the national distribution of funds beyond the fact that the money would be used for competitive grant programs in Plant Science with an emphasis upon biotechnology,

I could go on and on, but I am not going to.

I think that you shouldn't have any doubt as to what congressional intent was in this program. I think these memos indicate otherwise, and of course, I hope that the attitude expressed in the memo is not prevalent throughout USDA.

I am going to look forward to working with the people in USDA, to working on any questions that you have, so that you are convinced that our support for this program is solid.

Mr. Chairman, I have no other questions.

[The information follows:]

MEMO FROM MICHAEL HOBACK, CONFIDENTIAL ASSISTANT, SCIENCE AND EDUCATION, DEPARTMENT OF AGRICULTURE

To: Orville G. Bentley, Assistant Secretary, Science and Education

Subject: Competitive Research Grants for Plant Sciences

As you requested, I have reviewed the letter from Newton O. Cattell, director of the Midwestern Universities Alliance, regarding competitive research grants for plant science (Cooperative State Research Service).

I have reviewed the Conference Report which accompanied H.J. Res. 395, making further continuing appropriations for the fiscal year ending September 30, 1988. The conferees merely referenced the appropriation of $42,372,000 for competitive grants, and inserted the distribution table which indicates an appropriation level of $12,126,000 for plant science, the same funding level as fiscal year 1987. No directive or explanatory language was included. The bill, H.J. Res. 395, contained only the reference to the actual amount of the appropriation.

The Senate appropriations report included no directives or explanatory language beyond the following: "The Committee continues its commitment to the competitive grants method of fostering and promoting increased levels of basic agricultural research in our Nation." Likewise, the House appropriations report contained no directives or explanatory language on competitive research grants other than to amounts included.

The administration had requested $15,484,000 for competitive research grants for plant science, an increase of $3,358,000 over fiscal year 1987. The stated purpose of the proposed increase was for use in funding the plant science centers. As the conferees appropriated $12,126,000 for fiscal year 1988, the same as contained in the fiscal year 1987 continuing resolution, we can conclude that no funds have been dedicated for the establishment of plant science centers. We can also conclude that, in the absence of report language, it would appear feasible to use a portion of the plant science funds for a competitive program for the establishment of the centers.

Mr. Cattell suggests in his letter that Congress intended that $1.642 million be used for the establishment of a regional consortia because of an "increase" on the "biotechnology" (plant science category) line from $3.8 to $5 million. This "non-add" (advisory) item was included by the conferees without explanation. As you are aware, I had numerous conversations with various staff members regarding the competitive grants appropriation during the conference process. There was no reference, request, or comment made regarding the actual distribution of the funds beyond the fact that the money would be used for a competitive grants program in plant science with an emphasis on biotechnology.

MICHAEL HOBACK,
Confidential Assistant,
Science and Education.

SUBMITTED QUESTIONS

Senator HARKIN [presiding]. Thank you very much, Senator Grassley. I have no further questions. The following Senators have submitted additional questions, Dr. Bentley: Senator Burdick, Senator McClure, Senator Byrd, Senator Chiles, Senator Kasten, myself—Senator Harkin, Senator Bumpers, Senator Cochran, and Senator Hatfield.

[The following questions were not asked at the hearing but were submitted for response for the record:]

AGRICULTURAL RESEARCH SERVICE

QUESTIONS SUBMITTED BY SENATOR BURDICK

BUILDINGS AND FACILITIES

Question: In the fiscal year 1988 appropriations bill, we requested nine feasibility studies on research facilities. What is the status of these studies?

Answer: The guidelines for the nine feasibility studies for research facilities were sent to the universities on February 12, 1988. Upon receipt of proposals from each university, CSRS will execute a cooperative agreement with the institution. In the meantime documentation is being prepared by each institution for evaluation, following which we will make a site visit and prepare the final feasibility report.

Question: When do you expect to complete them and send them to the Committee?

Answer: The Cooperative State Research Service hopes to submit these feasibility studies to Congress in July.

Question: We also requested a report reviewing the proposals for Biotechnology Centers. This report was requested prior to the fiscal year 1989 hearings. Have you submitted this report?

Answer: At this time the biotechnology report is going through the Department's clearing process and should be submitted soon.

Question: What is your assessment of the need for a high-containment poultry research laboratory?

Answer: In fiscal year 1988, $375,000 has been appropriated to upgrade the poultry lab and isolation facility at the University of Arkansas.

Disease losses across the poultry industry are estimated to be more than $2.0 billion annually.

A research facility for investigations that would solve a substantial portion of the losses due to highly infectious viruses, bacteria and toxins and allow a research team to reduce losses by finding answers to serious disease outbreaks should make a very significant contribution.

Question: What is your assessment for other high-containment facilities?

Answer: High containment facilities, whether they are used for animal holding during infectious or toxic disease trials, security for study of certain products of biotechnology in animals, or as isolation-security for laboratories involved with unknown microbials or highly infectious agents in Animal Health research, are necessary tools in the application of the latest scientific technologies and methods. Not all institutions will necessarily need high containment facilities in order to make significant contributions to research and problem solving in this area. However, there must be adequate facilities available that will allow the proper security for research and evaluation studies when handling potential pathogens which could jeopardize the well-being of our U.S herds and flocks, our wildlife and the environment. Of course, many animal pathogens have human health related concerns which must be a major consideration in assuring proper security.

BARLEY

Question: I understand that the Agricultural Research Service has developed a new comprehensive plan of research for the barley yellow dwarf virus problem.

Could you please explain what your plan involved and the funding contemplated in fiscal years 1988 and 1989 for this research?

Answer: The plan included a description of the problem, a summary of progress made to date, and a description of the research to be undertaken in the future. The plan was reviewed by ARS, State agricultural experiment station, and private sector scientists who expressed satisfaction with it. Our program for 1988 and 1989 will be supported by $1,118,300.

Question: I understand that much of this work will be done at the Plant Gene Expression Center at Albany, California.

Do you expect all of the barley yellow dwarf virus work to be done at this location, and if not, where else will the research be conducted?

Answer: In addition to research at Albany, California, there will be major research programs at our Ithaca, New York, and Urbana, Illinois, locations with smaller projects at Pullman, Washington; West Lafayette, Indiana; University Park, Pennsylvania; and Brookings, South Dakota.

Question: What results do you expect from this effort and what is your timeframe for achieving those results?

Answer: The barley yellow dwarf virus affects oats, barley, and wheat and is spread by many species of insects. Varieties of these crops have been developed that have various levels of tolerance to this disease, but none are totally immune to infection by the virus. This being the situation, our goal is to produce breeding lines of all three crops that are immune to the virus or its insect vectors by developing and utilizing genetic engineering and other biotechnological techniques. This will require 5 to 8 years.

PLANT GENE EXPRESSION FOR DISEASE RESISTANCE

Question: Also, please identify how other specific disease problems affecting major economic crops could be addressed at the Plant Gene Expression Center, and cite the resource requirements for each disease problem.

Answer: Comparable research approaches involving identification and location of resistant disease genes, developing gene transfer techniques, and understanding how to achieve and regulate gene expression can be done at the Plant Gene Expression Center for many crop diseases, just as will be done for Barley Yellow Dwarf Virus on barley, oats, and wheat. Major crop diseases that could be addressed are wheat rust, potato blight, and sugarbeet leaf spot, just to name a few. The resource requirements for each disease problem at the Plant Gene Expression Center are $250,000 per year.

BARLEY RESEARCH

Question: Please explain the amount of work you are doing on barley germplasm enhancement and evaluation. For example, how many samples do you have, and at what rate are you classifying them?

Answer: The National Plant Germplasm System maintains 25,558 different samples of barley seed including wild types, and provides program support for genetic and cytogenetic stock collections. Complete field descriptions have been obtained for over 8,000 of the samples. Evaluations for priority diseases such as barley yellow dwarf (7,000), spot blotch (9,000), net blotch (5,000) and barley stripe (5,000) have been completed for the noted number of accessions and these and other evaluations continue. The data are made available through the GRIN database to barley researchers who utilize the resistant genes in their breeding programs.

Question: What is your long-term projection for evaluation and enhancement of barley germplasm?

Answer: Evaluation and enhancement of the barley collection will proceed in a systematic manner by established laboratories utilizing the prioritized guidelines developed by the Barley Crop Advisory Committee (CAC) and the National Barley Improvement Committee. Evaluation in barley, as with other commodities, is an ongoing process first addressing top priority descriptors involving such traits as stress, disease, and insect resistance and quality for feed or malt. Enhancement activities transfer valuable traits from specific plants identified in the evaluation efforts to useful breeding types. Evaluation and enhancement will continue as long as there is a commercial need for crop improvement.

LOW INPUT AGRICULTURE

Question: Please list and describe the research that is being done on low-input agriculture through ARS.

Please provide the funding levels for fiscal years 1988 and 1989 for this research.

Answer: The information for FY 1988 follows:

Description and Budget of Research Being Done on Low Input Agriculture Throughout ARS

Research Description	FY 88 Appropriation
Soil Fertility. Develop lower cost methods to reduce top soil loss. Determine levels of nutrients needed to maximize net economic return. Characterize nitrogen requirements of crops through the growing season. Determine rates of nitrification from crop residues, manure, and ammonium and urea fertilizers. Develop systems in which mycorrhizae can help crops get nutrients from the soil and thereby allow reasonable crop production with lower nutrient concentrations. Develop management systems which match nitrogen sources to crop needs to minimize potentials for groundwater pollution, reduce costs of inputs, and optimize nitrogen uptake by the crop.	$ 13.9M
Irrigation. Develop efficient lower cost irrigation systems. Develop efficient irrigation systems which use less energy. Determine which crops can most effectively use saline water and develop management plans to gain the most benefit therefrom. Development of cropping and tillage systems which facilitate deeper and more intensive rooting of crops, thereby providing more water to crops, mitigating droughts, and reducing the need for irrigation. Developing improved criteria for when to irrigate and how much water to apply to reduce water required while minimizing crop water stress. Placement of fertilizer and furrows to keep nitrates out of water percolating to the groundwater from crop root systems.	$ 12.9M
Conservation Tillage. Develop management strategies which overcome the negative effects of reduced tillage systems and enable farmers to adopt this low input and conservation effective practice. Develop analytical techniques for optimizing the management of agricultural chemicals to get them to their targets and reduce their concentrations in groundwater. Develop technology and integrated management systems to control toxic ions in irrigation return flows and develop agricultural production and resource conservation strategies that are economically feasible and compatible with environmental goals.	$ 3.4M
Germplasm. Collect, classify, evaluate, preserve, and distribute plant germplasm for use by federal, state, and private research groups. Collect, classify, evaluate, preserve and distribute germplasm of beneficial organisms and strains of micro- and meso-fauna which have potential in biological pest management programs. ARS seed banks contain over 450,000 accessions of crops and related varieties	$ 8.9M

Description and Budget of Research Being Done on Low Input Agriculture Throughout ARS

Research Description	FY 88 Appropriation
which are made available free of charge to those who wish to breed varieties which will increase production efficiency or reduce inputs.	
Germplasm Modification. Select and develop germplasm which is tolerant to acid soils and can be given to crop breeders to develop varieties which will produce well on acid soils, thereby reducing or eliminating the need for lime. Identifying crop varieties which are more resistant to nematode damage and providing this germplasm and information to crop breeders who can incorporate this characteristic into varieties with other desirable characteristics. Similar research to identify germplasm tolerant or resistant to other stresses, diseases, and insects is in process which will reduce the need for water, insecticides, and disease control chemicals.	$ 25.6M
Crop Production Efficiency. Increase knowledge of plant evelopment processes and associations with microorganisms which result in symbiotic relations such as rhizobia (nitrogen fixation), mycorrhizae (for more efficient uptake of plant nutrients and water). Development of management systems which will optimize production and minimize inputs in range, pasture, field crops, and horticultural crops. Develop technology to allow bee keepers and farmers to maintain adequate populations of pollinators to optimize crop and honey yields at minimum costs.	$ 16.9M
Plant Protection. Develop knowledge of growth, development, and population processes of insects, nematodes, and other pests as bases for development of improved and lower cost control technology. Develop knowledge of etiology, epidemiology, and pathogenicity of plant pathogens as a basis for improved and lower cost control technology. Provide economically feasible technology for protecting range and pasture, forage, field, and horticultural crops from losses caused by insects, nematodes, and diseases. Develop knowledge of the biology of weeds to determine their vulnerability to less costly methods of control and develop technology to achieve that control. Develop agricultural chemical technology for reducing crop losses due to weeds and pests.	$ 13.9M
Management Systems. Develop improved production systems and prediction and decision making models for different climatic zones and farm enterprises which will optimize economic return.	$ 7.1M
TOTAL	$102.7M

Funding for FY 1989 will continue at the FY 1988 program level plus projected increases of $4 million in ground water quality research and $1 million for improved pesticide application technology.

LOW-INPUT AGRICULTURE

Question: Dr. Kinney, last year in your testimony before this Committee, you indicated that ARS is spending upward of $22 million per year that relates directly to low-input agriculture. The House Report accompanying the fiscal year 1988 Agricultural Appropriations Act indicated that ARS is spending $101 million on low-input agriculture.

Could you please reconcile these two figures for the Committee?

Answer: The funding of $22 million indicated in the testimony last year was for research on organic farming. Organic farming is part of our definition of low-input agriculture. This was low-input agriculture at its most narrow definition. The funding level of $101 million refers to the overall effort to economize on production inputs and costs where possible in order to improve production efficiency and farm profitability.

Low-input agriculture involves research on biocontrol; integrated pest management; soil and water conservation and development; pesticide application techniques; improvement of groundwater quality; cropping and tillage systems; plant germplasm of beneficial organisms and plant germplasm resistant to stresses, diseases and insects; etc.

POTATOES

Question: The fiscal year 1988 appropriation included an increase of $1,250,000 for potato research. Are you working with the National Potato Council on this research?

Answer: Yes, we have been working closely with the National Potato Council on national priorities and also on allocation of these increase funds.

Question: Please provide a list of your potato research locations with the amount of funding for each location for fiscal years 1988 and 1989. Please specify the specialty of research conducted at each location.

Answer: The information for FY 1988 follows:

Location	FY 1988 Estimated
ARS Headquarters - Funds held for extramural research on ring rot, early dying, and scab disease problems.	$ 866,000
Albany, CA - Development of genetic engineering techniques and gene expression of economically important genes of potato. Plant cell transformation studies for improved potato quality.	$ 438,400
Aberdeen, ID - Development of improved pest resistant varieties and research on disease control.	$ 301,000
Kimberly, ID - Irrigation and soil studies to control or reduce incidence of dark end disorder.	$ 397,000
Beltsville, MD - Germplasm evaluation, gene enhancement, and breeding improved varieties; protoplast fusion and other genetic engineering techniques; processing germplasm introductions; pathogen-host interactions and genetics of resistance; and biological control of potato insects. Field trials for the breeding program are located at Presque Isle, Maine.	$1,912,200
Orono, ME - Potato disease control, integrated pest management techniques, and effect of soil and water stress on potato production.	$ 261,900
East Grand Forks, MN - Physical properties and other factors associated with processed potato quality, volatiles and prediction of potato quality from bulk storage, processing quality factors of potatoes following storage, and evaluation of potential new varieties for processing attributes.	$ 990,100
Ithaca, NY - Evaluation of potato germplasm for nematode resistance, biology and control of golden nematode, and biological control mechanisms for potato diseases.	$ 372,400
Wooster, OH - Management and control of potato insects.	$ 47,800
Wyndmoor, PA - Biochemical and ultrastructural features of interactions of potato diseases with host plant, mycotoxin production in plants, and improved food processing methods for potatoes.	$ 889,700
Yakima, WA - Insect behavior, insect ecology, biological control, and improved methods of pest control of potato insects.	$ 374,000

Location	FY 1988 Estimated
Prosser, WA - Evaluation of potato germplasm, gene enhancement, and development of new improved varieties.	$ 750,500
Madison, WI - Classification, evaluation, preservation,and distribution of introduced germplasm; potato genetics and cytogenetics; and protoplast fusion and other genetic engineering techniques.	$ 556,700
TOTAL	$8,157,700

The level of funding for FY 1989 remains the same.

Question: How is the $1,250,000 increase for fiscal year 1988 being allocated among these locations?

Answer: The funds are to be allocated as follows: $835,000 to ARS Headquarters for funding 17 specific extramural agreements with 10 States; $100,000 to Beltsville, MD, for specific research on early dying and ring rot disease problems; and $315,000 to East Grand Forks, MN, for marketing research. Out of this $315,000, in fiscal year 1988, $15,600 will be temporarily reassigned to Albany, CA, for potato gene manipulation to reduce blackspot sensitivity and $6,200 to Aberdeen, ID, for breeding to control blackspot.

Question: What is the amount of funds going to East Grand Forks potato laboratory for fiscal year 1988 and what is expected for fiscal year 1989?

Answer: We estimate $990,100 going to East Grand Forks in fiscal year 1988 and the same amount in fiscal year 1989.

RENAISSANCE '93

Question: What is the current status of the Renaissance '93 Program?

Answer: Renaissance '93 is a program to restore and upgrade the facilities and equipment of the Beltsville Agricultural Research Center and of the U.S. National Arboretum. The program was initiated in Fiscal Year 1986 in response to a Congressional directive. Improvements were made in FY 1986, FY 1987 and FY 1988 as follows:

In FY 1986, $8,262,057 was allocated for modernization of facilities and equipment as follows: 1) Renovation was initiated of a 50-year-old building into a fully modern facility to house the Plant Molecular Genetics Laboratory, 2) a gene transfer facility for livestock research was constructed, 3) a small animal facility was constructed for research on parasites of livestock, 4) state-of-the-art scientific equipment was procured, and 5) the roof on the Bioscience Building (B-011A) was replaced.

In FY 1987, $8,074,164 was allocated for modernization of facilities and equipment as follows: 1) the second phase of constructing a metabolism facility for large animals was initiated, 2) renovation of one greenhouse for florist and nursery crops was initiated, 3) one growth chamber was procured for plant physiology research, 4) the engineering design for future repair of the roofs of six buildings was accomplished, 5) a 400 megahertz NMR and other scientific equipment totaling $2,275,929 was procured, 6) Circle Drive was rebuilt, 7) a portion of the steam lines was replaced, and 8) plans were developed for the complete renovation of a major 50-year-old building (B-007) to house research on natural resources.

In FY 1988, approximately $11.1 million will be allocated as follows: 1) renovate B-007 for research on natural resources, 2) develop engineering plans for the renovation of the administration building (B-003), 3) renovate B-264 to conduct research on swine reproduction, 4) renovate the engineering building (B-303), 5) install a heating, ventilation and air-conditioning system in the chemistry building (B-306), 6) conduct an engineering study for the partial restoration of the brickyard at the U.S. National Arboretum, 7) rebuild Soil Conservation Road, 8) develop engineering design for the renovation of one building (B-307) for human nutrition research, and 9) repair some steam lines and water lines, etc.

Question: How much funding is included in the Fiscal Year 1988 and Fiscal Year 1989 Budgets for this program?

Answer: In FY 1988, the following sums are available:

Renaissance '93 Designated Funds	$ 1,000,000
ARS Repair and Maintenance Line Item	3,000,000
Building and Facilities Appropriation	5,750,000
ARS Annual (non-recurring)	1,350,000
TOTAL	$11,100,000

Also, an additional $450,000 from the FY 1987 supplemental appropriation will be obligated for the Beltsville Soil Conservation Road repair.

In FY 1989, we anticipate that the following amounts will be available:

Renaissance '93 Designated Funds	$1,000,000
ARS Repair and Maintenance Line Item, Anticipated FY 1989 Appropriation Increase	1,347,000
ARS Repair and Maintenance Line Item	3,000,000
Beltsville Program Assessment	2,253,000
TOTAL	$7,600,000

Question: The Committee understands that the Renaissance '93 project is being reassessed. Has that reassessment occurred, and if so, what does it show? If not, when do you expect to complete the assessment?

Answer: ARS released the initial Renaissance 93 document in late 1985, but designated funding for some of the listed items has only recently become available. In beginning to implement the overall objective of modernizing the Beltsville Agricultural Research Center, it became clear that even basic repairs to existing buildings would be a very expensive undertaking which would not necessarily result in a facility which would serve the Agency's needs throughout a facility planning timeframe of 20 to 40 years. In conjunction with the Department, it was determined that a more comprehensive planning effort should be pursued to consider future program configurations at BARC and their facility requirements.

Our enhanced planning process will not impede progress in upgrading BARC. We have identified a number of projects which will be necessary under any scenario to provide basic utility, safety, health and transportation services at the site. We are continuing with these basic priority projects while we further refine and develop our research and administrative facility plans. While an incremental approach to providing the basic utility and road requirements is an appropriate approach, when applied to actual laboratory and administrative space it frequently results in a fragmented, cost-inefficient product that provides less than optimum facilities for the type of technologically advanced research which is comprising an increasingly large share of the work at BARC.

We are currently soliciting proposals for completion of the BARC Modernization Study and plan to award a contract by late summer. We expect completion within one year of contract award, with intermediate progress reviews on a quarterly basis. The study will work from information available in the ARS 6-year program plan, Renaissance 93, an Agency repair and maintenance plan and other program and facility planning information. Results of the Study will provide the basis for a phased modernization of BARC which will address:

- program structure and content for the facility planning horizon
- facility requirements (type and quantity) to meet projected program needs
- appropriate means of providing facilities (new/renovation)
- long-term operating cost considerations/life cycle cost efficiencies
- appropriate phasing of facility work to minimize disruption

GRASSHOPPER CONTROL

Question: How much money is being spent on biological control of grasshoppers?

Please provide the information by location for Fiscal Year 1988 and Fiscal Year 1989, and summarize the work that is being done.

Answer: ARS has budgeted $279,500 at Bozeman, MT, and $212,000 at Ithaca, NY, on grasshopper biocontrol in FY 88. This includes $62,100 for cooperative research at North Dakota State University on the grasshopper fungus disease. FY 89 is expected to be funded at the same level. This research effort is in direct support of the interagency grasshopper integrated pest management program in North Dakota and Idaho. Biocontrol agents under investigation are Nosema and a virus at Bozeman and a fungus at Ithaca and North Dakota State University.

WATER QUALITY

Question: I understand that you propose an increase of $4 million for research to improve groundwater quality.

Please provide the Committee with the amount of research that ARS is doing on water quality by location and amount for Fiscal Year 1988 and estimated for Fiscal Year 1989.

Answer: The amount of research that ARS is doing on water quality by location and amount for Fiscal Year 1988 and estimated for Fiscal Year 1989 is shown in the following table:

Location	FY 1988	FY 1989
Phoenix, AZ	$ 455.9	$ 655.9
Fresno, CA	351.1	351.1
Riverside, CA	785.6	985.6
Akron, CO	147.9	147.9
Fort Collins, CO	1,014.4	1,314.4
Fort Lauderdale, FL	110.5	110.5
Tifton, GA	1,085.2	1,485.2
Kimberly, ID	318.0	518.0
Peoria, IL	203.0	203.0
Urbana, IL	168.8	168.8
W. Lafayette, IN	70.6	70.6
Ames, IA	215.0	615.0
Baton Rouge, LA	145.2	345.2
New Orleans, LA	279.7	279.7
Beltsville, MD	1,424.5	1,724.5
Morris, MN	0	200.0
St. Paul, MN	278.9	278.9
Oxford, MS	0	400.0
Stoneville, MS	244.3	444.3
Lincoln, NE	704.9	904.9
Mandan, ND	143.0	143.0
Columbus, OH	87.5	287.5
Coshocton, OH	268.3	468.3
Wooster, OH	66.6	66.6
Durant, OK	377.1	577.1
University Pk., PA	742.0	942.0
Wyndmoor, PA	198.1	198.1
TOTAL	$9,886.1	$13,886.1

Question: What type of research do you expect to do with the increased funding?

Answer: The proposed research will focus on the development and field testing of soil, water, chemical and crop management options that can effectively limit the buildup of chemical residues in the soil, minimize the risk of nitrate and pesticide leaching to groundwater, and at the same time maintain productivity and farm profitability.

Question: Do you expect the research to be carried out at ARS facilities, or through cooperative agreements?

Answer: The research to be supported with the increased funding will be carried out at 14 ARS facilities throughout the U.S.

The Committee understands that in order to concentrate efforts on groundwater quality, changes in research projects and funds at several locations were made.

Question: Please provide information about the program changes and the amount of change made at each location.

Answer: The program changes and the amount of change made at each location in order to strengthen the program on groundwater quality, are shown in the following table:

GROUNDWATER QUALITY REDIRECTIONS

Phoenix, AZ	Increase for reduced pesticide leaching to groundwater; reduction in remote sensing and water management research. ($64,200).
Fort Lauderdale, FL	Increase for biological control of aquatic weeds; reduction for chemical control of aquatic weeds. ($110,500).
Tifton, GA	Increase for improved pesticide formulations and integrated pest management; reduction in pesticide screening for weed control in forages. ($145,700).
Kimberly, ID	Increase for nitrate management in irrigated agriculture; reduction for salt transport and effects of soil erosion on productivity. ($318,000).
Urbana, IL	Increase for evaluating effects of tillage on pesticide movement; reduction for soybean production systems and corn oil quality. ($168,000).
W. Lafayette, IN	Increase for assessing water quality benefits of controlled release pesticides; reduction for weed control in conservation tillage systems. ($70,600).

Ames, IA	Increase for practices to reduce nitrate leaching to groundwater; reduction for residue management and phosphorus and potassium fertilization. ($215,000).
New Orleans, LA	Increase for developing formulations which reduce pesticide mobility; reduction for developing chemicals which stimulate weed seed germination. ($279,700).
Beltsville, MD	Increase for nitrate management in riparian zones and shallow groundwater; reduction for phosphorus availability and root growth under minimum tillage. ($489,400).
Mandan, ND	Increase for evaluating nitrate leaching for different cropping practices; reduction for assessing effects of erosion on productivity. ($143,000).
Columbus, OH	Increase for reduced chemical movement through water table control; reduction for assessing crop damage from high water tables. ($87,500).
Coshocton, OH	Increase for managing nitrate leaching from pastures and row crops; reduction for management of feedlot pollutants. ($268,300).
Wyndmoor, PA	Increase for evaluating clay-nitrogen interactions on nitrate leaching; reduction for metal ion bonding in soils ($198,100).

HUMAN NUTRITION

Question: Please provide for the committee the amount of nutrition research provided by location and the type of research done for fiscal year 1987, the amount allocated for fiscal year 1988, and the amount estimated for fiscal year 1989.

Answer: The information on Human Nutrition Research follows:

	Funding ($ in thousands)		
Location	FY 1987	FY 1988 Estimate	FY 1989 Estimate
Beltsville, MD			
Human Nutrition Research Center	$8,344.9	$8,419.2	$8,507.2

Type of research - Composition of foods and bioavailability of food nutrients required by humans; human requirements and metabolic roles of proteins and amino acids, carbohydrates, dietary fibers, lipids, minerals and vitamins, and identification of useful forms in foods; energy metabolism and energy requirements for weight maintenance; and dietary reduction of risk factors for nutrition-related chronic diseases.

Location	Funding ($ in thousands) FY 1987	FY 1988 Estimate	FY 1989 Estimate
Livestock & Poultry Science Institute		$ 128.7	$ 129.6
Type of Research - Metabolic regulation of nutritional composition of meat.			
Grand Forks, ND	6,663.3	7,112.7	7,139.3
Type of research - Nutritional requirements for zinc, cadmium, nickel, copper, and other minor elements and their relationship to optimal health, function, and performance; physiological and biochemical factors influencing minor element requirements in all age groups; biological availability of minerals and effects of nutritive and non-nutritive factors in foods on availability.			
Boston, MA	12,757.6	13,682.6	13,684.2
Type of research - Nutritional requirements of the elderly for optimal health, function, and performance; the relationship of nutrition to the aging process; role of diet in the function of major chronic degenerative conditions.			
Houston, TX	5,430.6	7,646.3	7,648.7
Type of research - Nutrient requirements in infants, children, pregnant and lactating women; role of diet for optimum growth and physical and mental development.			
San Francisco, CA	4,233.0	4,489.7	4,523.9
Type of research - Development of reliable, efficient, inexpensive methods for defining nutritional status; developing nutritional criteria for design and evaluation of intervention programs; identification of factors, forces, and trends resulting in malnutrition; planning and conducting research on human nutritional requirements.			
Albany, CA	712.7	653.8	656.4
Type of research - Improving the nutritional quality of cereal foods and other foods of plant origin.			
Peoria, IL	982.4	1,017.5	1,021.0
Type of research - Metabolic fate of polyunsaturated fatty acids; mineral bioavailability and iron binding in dietary fibers.			
Wyndmoor, PA	303.1	--	--
Type of research - Interactions of dietary fibers and nutrients in foods.			
Ithaca, NY	750.9	765.0	767.6

Location	Funding ($ in thousands) FY 1987	FY 1988 Estimate	FY 1989 Estimate
Type of research - Absorption of nutritionally important minerals in humans; zinc status in mammals; deposition of minerals in food crops.			
Hyattsville, MD	432.7	443.1	451.7
Type of research - Estimates of family expenditures on children; allocation of resources by older consumers; household expenditures for services; and linking economic trends to family financial behavior.			
Total - Human Nutrition	$40,611.2	$44,358.6	$44,529.6

REPAIR AND MAINTENANCE OF FACILITIES

Question: Please provide for the committee, a detail of how the funds are allocated for repair and maintenance of facilities for Fiscal Year 1988 and Fiscal Year 1989, by location.

Answer: For FY-88, allocation of R&M was made via the ARS Annual Resource Management Planning process which includes a process for requesting high priority facility requirements. Decisions on these needs by location have been made as follows:

AREA	LOCATION	DESCRIPTION	TOTAL APPROVED	AREA TOTAL
Beltsville Area				
		Renaissance 93	$1,000,000	
		Building 007	2,600,000	
		SCS Road	200,000	
		AREA Total		$3,800,000
North Atlantic Area				
	Wyndmoor, PA	Switchgear	27,800	
		Electrical Dist. Repair	7,000	
		Fume Hoods	56,403	
		Absorption Chiller	10,800	
		Fuel Tank Replacement	99,750	
		Generator Repair	25,000	
		PCB Transformer Replacement	8,305	
		Wyndmoor Subtotal	235,058	
	Univ. Park, PA	Roofs	66,000	
	Plum Island Animal Disease Laboratory, NY (PIADC)	HVAC-Bldg. 257	10,000	
		HEPA Filter Replacement	340,000	
		Orient Pt. Bldg. Renovation (Design Review)	80,000	
		PIADC Subtotal	430,000	

AREA	LOCATION	DESCRIPTION	TOTAL APPROVED	AREA TOTAL
	Ithaca, NY	Fume Hood Retrofit	11,500	
		HVAC	27,000	
		Air Handler Repair	37,400	
		Ithaca Subtotal	75,900	
	Georgetown, DE	Deep Well for Fire	17,000	
		Suspended Ceiling	30,000	
		Georgetown Subtotal	47,000	
	Newark, DE	Air Handler Repair	4,400	
	Beckley, WV	Roof Repairs	30,000	
	Orono, ME	Air Handler Repair	87,000	
		AREA Total		975,358
Midwest Area				
	Peoria, IL	Front Entry Stone	110,000	
		Safety Shower	61,000	
		Peoria Subtotal	171,000	
	Morris, MN	Repair Bldg. 2	15,000	
		HVAC	24,000	
		Morris Subtotal	39,000	
	Madison, WI	Repair Ventilation	10,000	
		HVAC Upgrade (Design	448,000	
		Review) Lab Repair	65,000	
		Madison Subtotal	523,000	
	E. Lansing, MI	Repair Ventilation	25,000	
		PCB Transformers	32,000	
		E. Lansing Subtotal	57,000	
	Columbia, MO	AC Units	40,000	
		Air Handling	49,500	
		Replacement of PCB Transformer and PCB Disposal	1,000	
		Columbia Subtotal	90,500	
	Ames, IA (NADC)	Water Tower	17,200	
		Replacement of PCB Transformer and PCB Disposal	1,769	
		Ames Subtotal	18,969	
		AREA Total		899,469

AREA LOCATION	DESCRIPTION	TOTAL APPROVED	AREA TOTAL
Pacific West Area			
Tucson, AZ	Fume Hoods Retrofit	273,000	
	Roofs	248,000	
	Tucson Subtotal	521,000	
Pasadena, CA	Pipe Replacement	167,000	
Fresno, CA	Fire Alarm System	235,000	
Albany, CA (PGEC)	Electrical System	10,000	
Brawley, CA	Painting	20,000	
	AREA Total		953,000
Northern Plains Area			
Brookings, SD	Asbestos Removal	50,000	
Ft.Collins, CO	Repairs	53,000	
Akron, CO	Painting	10,000	
Mandan, ND	Roof	44,500	
	HVAC	60,500	
	Mandan Subtotal	105,000	
Grand Forks, ND	Stack Repair	100,000	
	AC	22,000	
	Grand Forks Subtotal	122,000	
Fargo, ND	Intake Stack	15,000	
Cheyenne, WY	Doors	6,000	
Clay Center, NE	Swine Finishing Bldg.	135,000	
	Fume Hood	52,000	
	Clay Center Subtotal	187,000	
Manhattan, KS	HVAC	23,000	
Sidney, MT	Fume Hoods	10,000	
	AREA Total		581,000
Southern Plains Area			
Durant, OK	HVAC (design)	268,000	
El Reno, OK	Water Tower Replacement	283,500	
	Waterline Replacement	38,000	
	El Reno Subtotal	321,500	

AREA	LOCATION	DESCRIPTION	TOTAL APPROVED	AREA TOTAL
	College Sta., TX	Fume Hood Retrofit	25,000	
		Electrical Wiring Replacement	45,000	
		College Station Subtotal	70,000	
	Woodward, OK	Insulation and Repairs	55,000	
	Las Cruces, NM	Water system, fence, road repairs	50,000	
		AREA Total		764,500
Mid South Area				
	Baton Rouge, LA	Fume Hoods	16,000	
	Houma, LA	HVAC	16,000	
		Fume Hoods	45,000	
		Houma, LA Subtotal	61,000	
	Stoneville, MS	Bldg. Repairs	15,000	
		Bldg. Repairs	15,000	
		Stoneville Subtotal	30,000	
	Oxford, MS	Roof Repair	57,000	
	New Orleans, LA (SRRC)	Roof Repair	14,900	
	Miss. State, MS	Roof Repair	83,000	
		Fume Hood	30,000	
		AC	68,500	
		Evap. Cooling	55,000	
		Miss. State Subtotal	236,500	
	Auburn, AL	Roof Repair	24,000	
		Concrete Driveway	70,000	
		Auburn Subtotal	94,000	
		AREA Total		509,400
South Atlantic Area				
	Savannah, GA	Fume Hood	60,000	
	Raleigh, NC	Fume Hood	48,000	
	Oxford, NC	Fire Alarm	45,000	
	Watkinsville, GA	Asbestos Removal	50,000	
	Athens, GA	Chicken Brooder	31,500	
		Repair Sidewalks	12,000	
		Renovate Elec. System	29,500	
		Roof Replacement	36,000	
		Athens Subtotal	109,000	

AREA	LOCATION	DESCRIPTION	TOTAL APPROVED	AREA TOTAL
	Tifton, GA	HVAC Replacement (Bldg.1)	29,000	
	Byron, GA	Paving	12,000	
	Brooksville, FL	Asbestos Removal	25,000	
		Woodwork repair and painting	20,000	
		Roads	25,000	
		Brooksville Subtotal	70,000	
	Miami, FL	Power Lines	50,000	
	Florence, SC	Cooling System	22,500	
	Canal Point, FL	Fuel Tank Replacement	6,500	
		AREA Total		502,000
Agency		Unallocated		115,273
		Total R&M Funds Approved		9,100,000

Energy Retrofit Program Portion of
ARS Repair and Maintenance Budgetary Line Item

AREA	LOCATION	DESCRIPTION	TOTAL APPROVED	AREA TOTAL
Beltsville Area				
		Bldg. 007 Windows	200,000	
		AREA Total		200,000
North Atlantic Area				
	Ithaca, NY	GH Glazing	98,000	
	Wyndmoor, PA	Heat Recovery	19,200	
		Light Fixture Replacement	58,300	
		Roof Insulation	9,500	
			87,000	
		AREA total		185,000
Midwest Area				
	Columbia, MO	Steamlines	116,000	
	St. Paul, MN	GH Reglazing	135,000	
	Ames, IA	Variable Frequency Drives for Chilled	75,000	
	Peoria, IL	Window Blocking Water Loop	9,200	

AREA	LOCATION	DESCRIPTION	TOTAL APPROVED	AREA TOTAL
	Urbana, IL	GH Shades	25,000	
	Madison, WI	Steam Generator	5,000	
		AREA Total		365,200
Pacific West Area				
	Albany, CA	Boilers	900,000	
	Dubois, IA	Insulation	60,000	
		AREA Total		960,000
Northern Plains Area				
	Manhattan, KS	Boiler	6,600	
	Brookings, SD	Windows	35,000	
	Sidney, MT	Window Replacement	55,000	
		AREA Total		96,600
Southern Plains Area				
	Temple, TX	Chiller	165,000	
	College Sta.,TX	Chiller	185,000	
		Boiler	25,000	
		Vestibules	25,000	
		Coll. Sta. Subtotal	235,000	
		AREA Total		400,000
Mid South Area				
	Oxford, MS	Insulation	43,000	
		AREA Total		43,000
South Atlantic Area				
	Athens, GA	Insulation	70,000	
		AREA Total		70,000
Agency		Unallocated		132,200
		Total ER Funds Approved		2,452,000
		R&M Total		$11,552,000

For FY-89, the Agency is in the process of formulating nationwide modernization needs via the development of 6-year facility upgrade plans. The specific dollar information for locations other than Beltsville will not be available until May 1988. Accordingly, decisions on the actual allocations by project and location have not been finalized at this time. Decisions on allocating R&M funds in FY-89 will not take place until October 1988 during the Annual Resource Management Planning process.

SUNFLOWER AND SUGARBEET RESEARCH FACILITY

Question: What is the budget for the sunflower and sugarbeet research facility for fiscal year 1988 and fiscal year 1989?

Answer: The FY 1988 estimated budget for the sunflower and sugarbeet research facility at Fargo is $2,228,800. No change in funding is anticipated for FY 1989.

PEA AND LENTIL RESEARCH

Question: The report accompanying the Agriculture Appropriations Bill for fiscal year 1988 requested USDA to review the proposal presented by the USA Dry Pea and Lentil Council and the American Dry Pea and Lentil Association for creation of an Institute of International Cool Season Legume Research. Have you reviewed this proposal? If so, what does your review show? What is the projected cost of such a proposal?

Answer: We have reviewed this proposal and find that it deals largely with the evaluation of research proposals and allocation and management of Federal funds by industry. Established mechanisms and procedures already exist for funding agricultural research and establishing priorities. Though some of the proposed research seems worthwhile, we cannot be supportive of this proposal or the proposed method of industry managing ARS research programs. The projected cost is $25,000,000 over a 5-year period.

BIOLOGICAL CONTROL

Question: What has been the focus of biological control research in the Department?

Answer: Biological control research in the Department has traditionally focused on the discovery and use of naturally occurring insects and other organisms (parasites, predators, and pathogens) to control insect, weed, and other pests. Increasingly, biological control in ARS and elsewhere in the scientific community has come to also include pheromones, male sterility, plant breeding, genetic engineering, and other biological means. The goals of ARS biological control research programs are to develop lower cost, effective, and environmentally safe pest control technologies for farmers and ranchers.

Question: How much money has been allocated to this research and what is contained in the budget for Fiscal Year 1989?

Answer: Under the traditional natural enemies concept, ARS has allocated $17,601,100 to biocontrol research in FY 1988. Under the broader definition of all biological methods of pest control, the total ARS FY 1988 budget is $81,164,400. There are no anticipated increases for FY 1989.

SUNFLOWER RESEARCH

Question: Please describe the research on sunflower and sunflower pests that is ongoing through ARS.

Answer: ARS is conducting research on sunflower to reduce unit production costs and improve the quality of the seed to make it more competitive in world markets. Specific research approaches include:

1. Collection, preservation, and evaluation of sunflower germplasm to reduce the vulnerability of our sunflower crop to insects and diseases.

2. Development of higher yielding, pest resistant, stress tolerant germplasm to be used as parents for sunflower hybrids.

3. Development of improved pest management strategies for controlling diseases, insects, and weeds. Special emphasis is being given to the banded sunflower moth, the stem weevil, and Sclerotinia wilt.

4. Development of conservation tillage technology to reduce wind and water erosion while maintaining yield.

5. Improvement of oil stability and flavor to expand marketing potential.

Question: Please list the location of the research and the amount provided for fiscal year 1988 and requested for fiscal year 1989.

Answer: The information on ARS Sunflower Research follows:

Location	FY 1988 Estimated	FY 1989 Requested
Albany, CA	$ 208,700	$ 208,700
Peoria, IL	162,300	162,300
Ames/Ankeny, IA	144,200	144,200
Fargo, ND	1,193,900	1,193,900
Mandan, ND	143,000	143,000
Bushland, TX	197,300	--
Totals	$2,049,400	$1,852,100

ALLOCATION OF ARS FUNDS

Question: Please provide the Committee with the allocation of ARS funds around the country by lab and location.

Answer: The estimated allocation of these funds for Fiscal Years 1988 and 1989 by location is provided.

ESTIMATED ALLOCATION OF ARS FUNDS

Location	FY 1988 Estimated Dollars	FY 1989 Estimated Dollars
ALABAMA, Auburn........	$2,434,300	$2,469,700
ALASKA, Fairbanks......	708,700	714,100
ARIZONA		
Phoenix..............	4,910,200	5,173,200
Tucson...............	3,484,800	3,542,500
Total........	8,395,000	8,715,700
ARKANSAS		
Booneville...........	943,600	956,700
Stuttgart............	360,800	363,900
Total........	1,304,400	1,320,600
CALIFORNIA		
Albany...............	18,258,900	18,911,200
Brawley..............	329,100	335,200
Davis................	1,354,200	1,370,300
Fresno...............	3,301,800	3,354,100
Pasadena.............	1,893,800	1,922,200
Riverside............	2,748,600	2,973,200
Salinas..............	1,725,400	1,752,300
San Francisco........	3,946,300	3,977,100
Shafter..............	1,188,800	1,206,500
Total........	34,746,900	35,802,100
COLORADO		
Akron................	721,400	733,700
Fort Collins.........	8,294,400	8,664,500
Total........	9,015,800	9,398,200
DELAWARE		
Georgetown...........	728,900	737,400
Newark...............	574,100	584,800
Total........	1,303,000	1,322,200
DISTRICT OF COLUMBIA		
Program..............	3,789,100	3,840,600
Headquarters		
Federal Administration.....	28,520,900	28,856,900
Centrally Financed Services....	8,199,100	8,199,100
Subtotal......	36,720,000	37,056,000
Total........	40,509,100	40,896,600

ESTIMATED ALLOCATION OF ARS FUNDS

Location	FY 1988 Estimated Dollars	FY 1989 Estimated Dollars
FLORIDA		
Belle Glade..........	182,400	185,500
Brooksville..........	427,800	435,500
Canal Point..........	721,000	736,400
Fort Lauderdale......	641,400	650,600
Gainesville..........	8,136,700	8,255,900
Miami................	1,566,000	1,592,100
Orlando..............	3,850,400	3,900,400
Winter Haven.........	1,233,500	1,245,100
Total........	16,759,200	17,001,500
GEORGIA		
Athens...............	11,544,100	12,580,800
Byron................	1,817,400	1,849,700
Dawson...............	1,378,900	1,399,600
Experiment...........	1,407,700	1,413,100
Savannah.............	2,636,000	2,676,700
Tifton...............	6,007,500	6,626,000
Watkinsville.........	1,764,500	1,785,200
Total........	26,556,100	28,331,100
HAWAII, Honolulu.......	4,443,900	4,487,000
IDAHO		
Aberdeen.............	1,130,400	1,138,800
Boise................	1,029,100	1,042,200
Dubois...............	1,533,500	1,541,900
Kimberly.............	2,071,000	2,282,600
Total........	5,764,000	6,005,500
ILLINOIS		
Peoria...............	19,849,600	20,445,200
Urbana...............	3,134,200	3,171,900
Total........	22,983,800	23,617,100
INDIANA, Lafayette.....	2,822,200	2,856,800
IOWA, Ames/Ankeny......	17,040,300	17,921,800
KANSAS, Manhattan......	3,743,800	3,793,800
KENTUCKY, Lexington....	882,500	894,800
LOUISIANA		
Baton Rouge..........	1,552,700	1,758,800
Houma................	1,305,100	1,332,800
New Orleans..........	15,921,700	16,108,600
Total........	18,779,500	19,200,200

ESTIMATED ALLOCATION OF ARS FUNDS

Location	FY 1988 Estimated Dollars	FY 1989 Estimated Dollars
MAINE, Orono...........	436,000	441,300
MARYLAND		
Beltsville...........	72,320,800	74,243,000
Frederick............	2,046,400	2,078,700
Hyattsville..........	391,000	398,700
Total........	74,758,200	76,720,400
MASSACHUSETTS, Boston..	12,990,900	12,992,400
MICHIGAN, East Lansing.	2,970,200	3,015,500
MINNESOTA		
East Grand Forks.....	889,700	895,900
Minneapolis..........	- -	- -
Morris...............	1,694,300	1,899,600
St. Paul.............	3,294,300	3,325,100
Total........	5,878,300	6,120,600
MISSISSIPPI		
Mississippi State....	5,851,100	5,938,700
Oxford...............	3,306,900	3,720,000
Poplarville..........	599,100	608,300
Stoneville...........	9,439,300	10,116,700
Total........	19,196,400	20,383,700
MISSOURI, Columbia.....	4,006,200	4,070,000
MONTANA		
Bozeman..............	1,334,200	1,354,200
Miles City...........	1,704,800	1,714,800
Sidney...............	425,800	434,300
Total........	3,464,800	3,503,300
NEBRASKA		
Clay Center..........	8,250,100	8,654,700
Lincoln..............	2,715,800	2,928,100
Total........	10,965,900	11,582,800
NEVADA, Reno...........	600,600	606,800
NEW MEXICO		
Las Cruces...........	1,217,000	1,237,800
NEW YORK		
Geneva...............	1,128,000	1,134,900
Ithaca...............	2,875,600	2,904,800
Plum Island..........	8,705,900	8,867,400
Total........	12,709,500	12,907,100

ESTIMATED ALLOCATION OF ARS FUNDS

Location	FY 1988 Estimated Dollars	FY 1989 Estimated Dollars
NORTH CAROLINA		
Oxford...............	2,295,100	2,322,000
Raleigh..............	4,053,400	4,513,800
Total........	6,348,500	6,835,800
NORTH DAKOTA		
Fargo................	7,551,400	7,646,000
Grand Forks..........	6,320,400	6,344,300
Mandan...............	2,272,900	2,310,500
Total........	16,144,700	16,300,800
OHIO		
Columbus.............	191,500	374,600
Coshocton............	801,800	995,700
Delaware.............	562,900	571,300
Wooster..............	1,512,100	1,719,800
Total........	3,068,300	3,661,400
OKLAHOMA		
Durant...............	1,855,000	2,065,800
El Reno..............	1,598,500	1,621,600
Lane.................	1,299,800	1,308,300
Poteau...............	410,400	419,600
Stillwater...........	1,645,700	1,670,300
Woodward.............	711,400	724,500
Total........	7,520,800	7,810,100
OREGON		
Burns................	331,600	333,900
Corvallis............	3,770,500	3,802,800
Pendleton............	1,062,400	1,079,300
Total........	5,164,500	5,216,000
PENNSYLVANIA		
University Park......	2,625,300	2,843,700
Wyndmoor.............	16,421,500	17,315,400
Total........	19,046,800	20,159,100
SOUTH CAROLINA		
Charleston...........	2,189,400	2,221,700
Clemson..............	1,688,200	1,710,500
Florence.............	1,648,300	1,676,800
Total........	5,525,900	5,609,000
SOUTH DAKOTA		
Brookings-Madison....	1,449,100	1,476,800

ESTIMATED ALLOCATION OF ARS FUNDS

Location	FY 1988 Estimated Dollars	FY 1989 Estimated Dollars
TENNESSEE		
Greeneville	49,900	50,600
Jackson	127,300	129,600
Lewisburg	145,200	147,500
Total	322,400	327,700
TEXAS		
Beaumont	752,500	764,000
Brownwood	500,100	508,600
Bushland	2,138,800	2,175,700
College Station	8,183,800	9,016,000
Houston	6,986,100	6,988,400
Kerrville	2,261,200	2,301,200
Lubbock	2,388,600	2,426,300
Temple	2,745,900	2,792,000
Weslaco	5,715,700	5,798,000
Total	31,672,700	32,770,200
UTAH, Logan	3,017,900	3,059,400
VIRGINIA		
Suffolk	477,300	486,500
WASHINGTON		
Prosser	2,187,800	2,222,400
Pullman	5,424,000	5,490,900
Wenatchee	1,073,400	1,091,100
Yakima	2,372,900	2,412,900
Total	11,058,100	11,217,300
WEST VIRGINIA		
Beckley	2,384,200	2,413,500
Kearneysville	3,221,900	3,258,000
Total	5,606,100	5,671,500
WISCONSIN, Madison	4,737,700	4,779,200
WYOMING		
Cheyenne	657,300	671,100
Laramie	1,897,800	1,918,600
Total	2,555,100	2,589,700
PUERTO RICO		
Mayaguez	1,844,200	1,882,700
VIRGIN ISLANDS		
St. Croix	211,800	215,700

ESTIMATED ALLOCATION OF ARS FUNDS

Location	FY 1988 Estimated Dollars	FY 1989 Estimated Dollars
OTHER COUNTRIES		
Argentina, Buenos Aires.......	151,100	151,100
France, Behoust......	816,600	818,900
Italy, Rome..........	547,800	548,600
Korea, Seoul.........	151,500	152,300
Mexico, Tuxtla Gutierrez..........	890,100	896,300
Netherlands, Rotterdam..........	307,700	309,200
Total........	2,864,800	2,876,400
Extramural and Program locations to be determined.....	17,336,400	18,356,800
Contingency Research Fund................	951,000	951,000
Repair & Maintenance of Facilities........	10,551,400	14,551,400
Federal employees' Retirement System....	15,453,000	15,453,000
Subtotal, Available or Estimate.........	540,315,000	560,588,000
Allotment to Forest Service.......	369,000	369,000
TOTAL, Appropriation...	540,684,000	560,957,000

FY 89 PROGRAM INCREASES

Question: Please provide the Committee with more specific information about the planned implementation of program changes recommended for Fiscal Year 1989. For each of the programs, please indicate the amount and distribution of funds, the problem being addressed, the objectives of the work for each location, and the expected results to be achieved.

Answer: More than 300,000 tons of pesticides and 10,000,000 tons of nitrogen fertilizer are applied yearly on U.S. croplands. Some of these chemicals have been detected in the Nation's groundwater. The problem being addressed is how to safeguard the quality of our groundwater while maintaining the productivity and competitiveness of U.S. agriculture. The expected results to be achieved include more efficient use of agricultural chemicals, improved technologies for reducing the leaching of pesticides and nitrate, and better guidelines for selecting practices that maintain or enhance groundwater quality.

In the area of Food Safety and Animal Health, the ARS budget proposes increased research efforts to control and reduce the level of colonization of Salmonella and other food-borne pathogens in poultry and livestock. Also, research will be directed toward the detection of animal carriers and to provide a better understanding of the epidemiology and spread of this disease at the herd level.

The $1 million increase for ARS to improve pesticide application methods will provide increased research at four locations. The problem being addressed is how to provide more efficient pest control while minimizing environmental contamination. The expected results include improved technologies for applying growth regulators, beneficial microbes, and pesticides to reduce pest damage to horticultural and field crops while reducing the dosage and frequency of application.

Ozone concentration of the stratosphere is decreasing which allows more ultraviolet (UV) radiation to reach the crops. This increase in UV radiation has been deleterious to crop yield and quality in nearly half of the species examined to date. While some cultivars of agricultural crops are tolerant, the mechanisms of damage and tolerance are not well defined. Expected results to be achieved include assessment of reductions in yields and quality of selected crop species due to enhanced UV radiation levels, understanding of repair processes which enable crops to tolerate UV exposure and information on the biological, physical, and morphogenetic bases for differences in UV sensitivity which will allow plant breeders and genetic engineers to develop varieties of essential crops that can tolerate UV enhancement.

The microbiological contamination and chemical residues presently being identified in meat and poultry are causes for concern for the safety of these animal derived food products. The research problems to be addressed are (1) to develop affordable products and practices to prevent biological and chemical contamination and (2) to give the regulatory agencies the tools to assure the public that food is safe. This new analytical methodology and the improved control procedures will help both the FSIS and food processors meet strict chemical and microbiological standards and thus more accurately and completely assure the safety of meat and poultry products.

The following table shows the location, objectives, and proposed funding level for each of the FY 89 Program Increases.

Location	Research Objectives	Funds
	GROUND WATER QUALITY	
Phoenix, AZ	Develop practices for reducing pesticide leaching from irrigated lands.	$ 200
Riverside, CA	Compare the impact of different irrigation practices on pesticide losses.	200
Fort Collins, CO	Develop methods for assessing the chemical vulnerability of groundwater.	300
Tifton, GA	Evaluate how changes in pesticide formulation affect groundwater quality.	400
Kimberly, ID	Develop irrigation practices that reduce nitrate losses to groundwater.	200
Ames, IA	Evaluate effect of soil macroporosity on nitrate movement to	400
Baton Rouge, LA	Reduce pesticide levels in shallow groundwater using water table control.	200
Beltsville, MD	Develop more efficient strategies for sampling and analyzing pesticides.	300
Morris, MN	Determine nitrogen sufficiency levels for major crops of the Cornbelt.	200
Oxford, MS	Assess water quality impacts of conservation tillage and double cropping.	400
Stoneville, MS	Adapt water quality control models for use in the Mississippi Delta.	200
Lincoln, NE	Develop nitrogen management practices that reduce nitrate in groundwater.	200
Columbus, OH	Reduce chemical residues in groundwater through water table management.	200
Coshocton, OH	Determine how the placement of chemicals affects their movement in soils.	200
Durant, OK	Develop fertilizer practices that reduce nitrate movement to groundwater.	200
University Pk., PA	Determine the fate and movement of nitrate in mixed land use watersheds.	200

Location	Research Objectives	Funds
	FOOD SAFETY AND ANIMAL HEALTH	
Athens, GA	Competitive exclusion of Salmonella by normal microbes in chicken gut.	300
Ames, IA	Identification of Salmonella carriers, genetically engineered vaccine for swine.	300
Clay Center, NE	Monitor presence of pathogens at herd level, its spread, and epidemiology.	400
	PESTICIDE APPLICATION	
Tifton, GA	Develop methods for applying pest control agents through irrigation systems.	200
Stoneville, MS	Improve application technology for chemical and biological control agents.	400
Wooster, OH	Improve retention, absorption, translocation of foliar applied pest control agents.	200
College Station, TX	Overcome insecticidal resistance by reducing dosage and frequency of application.	200
	OZONE	
Beltsville, MD	Determine mechanisms by which plants withstand UV radiation.	250
Raleigh, NC	Determine species and varietal response to increased UV radiation and associated decreases in tropospheric ozone.	450
	MICROBIAL CONTAMINATION AND RESIDUES	
Albany, CA	Develop simple, fast screening methods to detect pesticides and other contaminant residues in animals.	500
Athens, GA	Determine factors affecting colonization of Salmonella and other pathogens in poultry. Develop improved slaughtering and processing procedures for poultry.	700
Peoria, IL	Develop quicker, more efficient methods for the determination of pesticides and drug residues in animal products.	400
Beltsville, MD	Develop effective control programs for toxoplasmosis in pork.	500

Location	Research Objectives	Funds
Philadelphia, PA	Detect and quantify pathogenic bacteria such as Salmonella. Develop microbiological control procedures to help assure safety of meat and poultry products. Detect and quantify nitrosamines and other chemicals in meat products.	800
College Station,TX	Develop screening and confirmatory method for the detection of pesticides in meat.	600
	TOTAL	$10,200

FOOD SAFETY

Question: Please provide for the record information about research projects underway in support of the Food Safety and Inspection Service (FSIS). The information should reflect objectives being pursued at each location, expected results, and the level of scientific and financial commitment to the work. Additionally, indicate the potential impact the research will have on FSIS programs.

Answer: The ARS has a substantial commitment in ongoing research programs to meet the needs of the Food Safety and Inspection Service. We expect that the research results from these programs at 10 locations, representing the work of 50 scientists, will significantly help assure the microbiological safety of our animal food products, as well as provide more efficient means to assay for drug and pesticide residues in meat and meat products. The findings will help provide the means for pathogen free production of poultry and meat animals; and the Food Safety and Inspection Service will be able to provide greater assurance of the safety of meat and poultry products available to the American consumer, and most importantly at a lower cost than is possible with their present tools for inspection.

Locations, funding and objectives of food safety research in ARS are in the following table.

Location	Research Objectives	Funds
ARS Headquarters	Research on dioxin contamination	$ 19
Albany, CA	Determine the end products which may result from use of chlorine disinfectants and develop microfiltration methods to clean processing waters and control microbial growth.	822
Athens, GA	Develop products and practices to prevent the colonization of young poultry and their further contamination in the slaughterhouse by hazardous bacteria.	1,509
Ames, IA	Determine the factors that affect colonization and transmission of Salmonella in swine.	341

Location	Research Objectives	Funds
Peoria, IL	Develop improved extraction procedures and analytical methods for pesticides and mycotoxins in meat.	456
Beltsville, MD	Determine the incidence and infectivity of Toxoplasmosa in pork. Develop analytical methodology to detect chemical residues in animal products.	1,197
Columbia, MO	Develop equipment and practices to assure the microbiological safety of beef cattle and swine during slaughtering and processing.	108
Clay Center, NE		403
Fargo, ND	Describe the absorption, metabolism and excretion of an antibiotic drug in food producing animals.	290
Philadelphia, PA	Develop improved methodologyfor detecting and quantifying hazardous bacteria in food. Determine how Determine how new technologies of the food industry will impact the safety of foods. Develop more accurate and sensitive analytical methodology for detecting chemical residues. Determine how the effects of food irradiation can be detected in food products, and how to prevent vitamin losses. Develop improved procedures for quantitation of fish, dairy, and plant proteins in food systems.	4,132
College Station, TX	Develop cost effective production practices to deliver Salmonella free poultry and beef cattle to the slaughterhouse.	349
	TOTAL	9,626

PLUM ISLAND ANIMAL DISEASE CENTER

Question: The Committee understands that the Agricultural Research Service and the Animal and Plant Health Inspection Service are contemplating significant program changes and consolidation of facilities at the Plum Island Animal Disease Center in New York. Please provide the Committee with detailed information about the proposals and planned funding commitments.

Answer: The Agricultural Research Service and the Animal and Plant Health Inspection Service are developing a plan for consolidation and renovation of facilities at the Plum Island Animal Disease Center in New York. A total of $800,000 of FY 88 agency funds has been allocated for design. We expect a design contract to be awarded by August 1988 and a definite commitment of base fund contributions by each agency by December 1988.

GERMPLASM

Question: How much money are you planning to spend on germplasm evaluation, collection, and maintenance, giving a specific amount for each activity?

Answer: For plant germplasm research in FY 88, ARS is planning to spend $3,184,600 for collection activities, $9,496,700 for maintenance, $8,141,700 for evaluation, and $5,633,000 for enhancement to transfer beneficial genetic traits into a usable form for the breeder.

Question: Could you please list the major commodities that benefit from this germplasm activity and the amounts that are allocated to each of these commodities?

Please break down the small grains category into each of the grains.

Please provide this information for both fiscal years 1988 and 1989.

Answer: The major crop commodities and their present germplasm funding are provided. We expect FY 89 funding levels will be the same as in FY 88.

Commodity	FY 1988 Estimated
Barley	$585,100
Citrus	1,071,400
Corn	930,300
Cotton	1,376,700
Deciduous & Small Fruit & Nuts	2,627,700
Forage	1,721,700
Grain Sorghum	827,300
Miscellaneous & New Crops	515,200
Multiple Commodities	4,023,100
Oats	677,400
Oilseed & Oil Crops	711,300
Ornamental & Turf	916,800
Peanuts	484,200
Potatoes	532,900
Range & Pasture	426,200
Rice	498,000
Rye, Triticale, Other Small Grains	372,200
Seeds	412,800
Soybean	1,564,100
Sugar Crops	536,800
Tobacco	45,900
Trees & Forest Products	257,200
Vegetables	3,070,000
Wheat	2,271,700
Total	26,456,000

BELTSVILLE FACILITIES: REPAIR AND IMPROVEMENT

Question: Congress provided a total of $13,950,000 for Beltsville facilities improvement for fiscal year 1988; however, since a portion of this funding was an additional assessment on research at Beltsville, $2.8 million may not be used for facilities improvement. Assuming that this additional assessment is not made, the Committee expects at least $11.1 million for facilities and improvement at the Beltsville Agricultural Research Center in fiscal year 1988.

Please provide the Committee with detailed information specifying the projects planned for the use of these funds.

Answer: $11.1 Million will be made available in FY-88. The additional assessment is being returned to the research program as directed. Detailed information on FY-88 project implementation is as follows:

	($000)		
PROJECT	STUDY	DESIGN	CONSTRUCTION
Bldg. 007	--	--	$5,120
Bldg. 003	--	$400	--
Bldg. 307	$92	--	--
Bldg. 307 Lab Renovation	--	--	22
Bldg. 476 Bee Mite Facility	--	--	13
Bldg. 264	--	--	60
Mail Room Move to Bldg. 012	--	15	95
Renovation Due to Moves for Bldg. 007 Construction	--	--	250
BARC Facility Study	430	--	--
Bldg. 204 - Abattoir	--	30	370
Renovate Bldg. 303	--	--	534
Bldg. 306 Modify HVAC	--	--	320
U.S. National Arboretum Brickyard Entrance, etc.	100	--	--
Annual Exterior Painting	--	--	100
Annual Roof Repairs	--	--	60
Animal Building Security Alarm Systems	--	--	80

PROJECT	($000) STUDY	DESIGN	CONSTRUCTION
Roof Repairs at Arboretum	10	--	--
Repair U.S. National Arboretum Elec. System	5	25	--
Upgrade Bldg. 308	--	30	--
Swine Reproduction Bldg.	--	30	--
Repair Bridges at BARC	--	--	247
Misc. Structural Defects	65	--	--
Phase IV Steam Lines		100	
Bldg. 014 Oil to Gas Conversion	--	25	--
BARC West Water Line Repair[1/]	50	--	1,100
Steam Line, Headhouse 13, Rg. 1	--	--	30
Soil Conservation Rd.[2/]	--	--	800
Plant Growth Chambers	--	--	120
Renovate Greenhouse/Headhouse #8	--	--	175
Electrical Feeder Installation	--	--	80
Contingency for Changes	--	--	117
SUBTOTAL	$752	$655	$ 9,693
TOTAL			$11,100

Question: How much is contained in the fiscal year 1989 budget for Beltsville facilities improvement?

Answer: We anticipate that in FY-89, $7.6 Million will be obligated for the Beltsville Renovation Program.

Question: What do you intend to do with this fiscal year 1989 request? Please specify.

Answer: In FY-89, we intend to undertake the following projects:

[1/] - Construction from FY-88 non-recurring appropriation cannot be obligated until FY-89.

[2/] - Also, a FY-87 Supplemental Appropriation in the amount of $450,000 will be obligated for the road.

	($000)		
PROJECT	STUDY	DESIGN	CONSTRUCTION
Renovate B-003 (Administration)	--	--	$5,100
Renovate B-307 (Human Nutrition)	--	488	--
U.S. National Arboretum Roof Repairs	--	20	200
Repair U.S. National Arboretum GH Elec. System	--	--	250
Annual Exterior Painting	--	--	100
Annual Roof Repairs	--	--	60
Phase IV Steam Lines	--	--	1,250
B-308 (Human Nutrition)	80	--	--
Contingency for Changes	--	52	--
TOTAL	80	560	$ 6,960
SUBTOTAL			$ 7,600

Question: If additional funds were provided in fiscal year 1989 over the budget request, for what purposes would the funds be used? Please provide the information for assumed increases of $3,000,000, $6,000,000, or $9,000,000.

Answer: Assuming the $3 million would be non-recurring and the amount sufficient, our highest priority projects would be the design and construction of an ultraclean small animal facility for human nutrition research and a design to renovate Building 002 for postharvest research.

With a $6 Million increment, and assuming that the appropriation would be non-recurring, we would undertake the above projects and as many of the following additional projects as costs would permit:

Compactors for Plant Herbaria (design and construction);

B-014 Oil to Gas Conversion (construction);

Phase V Replace Steam Lines (study and design);

Steam Lines, B-161, 179, 202, & 204 (study and design);

Renovate B-004 (Horticulture) (design);

Renovate B-200 (Animal Science) (study);

Renovate B-001 (design);

Renovate Swing Space to Accommodate Moves (construction);

construct Swine Reproduction Lab (construction);

Labs and Conference Room, USNA, (design and construction);

Complete Free Stall Barn, (design);

Compactors for Fungus Collection, (design and construction);

Renovate 2 Greenhouses, (design);

Insectory for Neurobiology, (design and construction).

With a $9 million increment, and assuming that the appropriation would be non-recurring, we would undertake the above projects and as many of the following projects as costs would permit:

Renovate Greenhouses (construction);

B-163B Roof Repairs (construction);

B-166 Roof Repairs (construction);

B-167 Roof Repairs (construction);

B-171 Roof Repairs (construction);

B-179 Roof Repairs (construction);

Farrowing Facilities (design and construction);

Renovate Glenn Dale Facility (design and construction);

Poultry Holding Facilities (design and construction);

Cold Rooms, B-002 (construction);

Contingency for Changes (construction).

BELTSVILLE FACILITIES: REPAIR AND IMPROVEMENT

Question: Please provide information about the objectives to be achieved by the recently announced organizational realignment and management changes at BARC.

Answer: The realignment of the management structure of the Beltsville Area has three major objectives, as follows: (1) strengthen the capacity of the Area's management team to direct research programs to the Nation's highest priority agricultural problems in order to assure a strongly competitive agricultural industry; (2) assure that our research programs have modern equipment, facilities, and facility support; and (3) provide increased administrative services support to Research Leaders and bench scientists.

Question: Are there increases from this realignment and, if so, what are they and where do they occur?

Answer: A moderate increase in administrative services will result in strengthening Safety and Health, Property, ADP and Contracting staffs to address numerous environmental compliance and safety issues, to provide essential staff support to the BARC facility modernization initiatives, and to establish service centers to provide day-to-day administrative support to Research Leaders and bench scientists, thus improving delivery of services and allowing the scientists to devote full-time effort to the actual conduct of research.

Question: What are the impacts on research programs at the Center caused by the realignment?

Answer: The realignment will result in more effective focusing of research projects on the highest national priorities, more effective planning of land use and facility modernization, and better utilization of time by Research Leaders and bench scientists. The cost of additional support will reduce the amount of funds that BARC can devote to facility and equipment upgrading. This realignment will permit the Agency to return six scientists and their clerical support back to full-time research.

AQUACULTURE

Question: Funding for aquaculture is provided in various accounts through both CSRS and ARS. Please provide for the Committee the total amount of aquaculture funding by location, including the type of research being conducted.

Answer: ARS aquaculture research is conducted at the following locations:

New Orleans, LA. Identify cause and preventions for warmed-over flavor in fish. ($643,800)

Auburn, AL. Discover ways to improve immunity of catfish to diseases and parasites. ($61,200)

Stoneville, MS. Catfish breeding and genetics. Construction of research facilities is complete, and research staffing has begun. One scientist and two support personnel have been hired. Research at this location will be in cooperation with Mississippi State University, Auburn University, and other agricultural experiment stations. ($485,800)

Waimanalo, HI. Development of methods and systems for alternative sources of feed ingredients for aquatic species. ($904,500)

Lane/Tishomingo, OK. Develop efficient production systems for catfish in the Southwest. ($263,800)

Shepardstown, WV. A 4-year project funded at $110,000/year will be started during 1988 to link fish culture with plant culture for small family farm operations.

QUESTIONS SUBMITTED BY SENATOR CHILES

WHITEFLY

Question: The sweet potato whitefly is quickly becoming an economic pest to Florida's nursery and foliage industries and is a threat to the State's billion dollar vegetable industry. I know that the State of California has also had a number of problems with the whitefly and that ARS is conducting research in California on chemical control measures. Since chemical control will only provide short-term relief for the problem, can you tell me what plans ARS has for conducting research on biological control measures which would provide longer control?

Answer: Because of the seriousness of the sweet potato whitefly problem in Florida and other States, ARS will develop alternative research strategies to chemicals to manage this pest. Initially, we plan to establish an ARS scientist position at our U.S. Horticultural Laboratory, Orlando, Florida, to address biological methods of control. This scientist will work cooperatively with ongoing biocontrol work with the University of Florida at Apopka.

Question: ARS currently has a research center located in Gainesville, Florida, which, as I understand it, focuses primarily on biological control research. What resources at the Gainesville Laboratory can be made available to deal with the sweet potato whitefly problem?

Answer: This new research project will primarily be conducted at Orlando and Apopka in cooperation with current research programs at the ARS Insect Attractants Laboratory, Gainesville, Florida. This Laboratory has specialized facilities and expertise which could be directed to this problem, especially in the area of pheromones and other attractants and molecular biology.

Question: Will the National Program Staff implement a biological control research program on the sweet potato whitefly problem?

Answer: Yes, the ARS National Program Staff will direct the establishment of the new research activity in Florida and will guide the scientists in formulating control and research strategies for the sweet potato whitefly.

CITRUS CANKER

Question: What is the status of the ARS and University of Florida cooperative research project on citrus canker?

Answer: The citrus canker cooperative project with the University of Florida is continuing in 1988 and is funded at $637,849. Cooperative research continues on the genetics of the causal bacterium, determining how this pathogen spreads, developing improved methods to detect it, improved fruit treatment procedures, and development of resistant varieties. As a result of completed research, there is no longer wholesale destruction of citrus trees.

CROSSING HOUSE, CANAL POINT, FLORIDA

Question: In the Senate Report that accompanied last year's Agriculture Appropriations Bill, the Committee directed the ARS to utilize up to $300,000 to construct a new crossing house at the Sugarcane Breeding Station in Canal Point, Florida. What progress has ARS made so far? When do you expect construction on the crossing house to be completed?

Answer: The engineering design for the sugarcane crossing house at Canal Point will be complete by June 30, 1988. We will advertise for construction bids shortly thereafter and $300,000 has been set aside for this needed facility. Construction should begin in the fall of 1988 with completion estimated during the spring of 1989.

QUESTION SUBMITTED BY SENATOR BUMPERS

POULTRY ISOLATION UNIT, UNIVERSITY OF ARKANSAS

Question: Dr. Kinney, in FY 88, $375,000 was appropriated to the Agricultural Research Service for use in the Buildings and Facilities account for construction needs at the poultry isolation unit at the University of Arkansas. The school has learned that construction funds are woefully short, and I am interested in knowing what flexibility the ARS is providing in its administrative fees to help the University? What will the ARS provide the University in exchange for the fees it will charge?

Answer: Consistent with language appropriating these funds, ARS will transfer funds for this and other university facility projects to the Cooperative State Research Service (CSRS). ARS does not assess any administrative charges against these funds. Construction of the facility will be supported by a CSRS Building and Facilities award of $363,750 to the University. CSRS retains 3% of funds for administration and they will be used for CSRS' cost of reviewing the proposal and processing and awarding the grant.

QUESTIONS SUBMITTED BY SENATOR HARKIN

NON-FOOD PRODUCTS

I have a considerable interest in biotechnology and believe that well structured research in this area can have major benefits for Agriculture.

It can be of special importance in the development of new non-food uses for our crops. And I include both the modification of crops after harvest.

In a May 15 hearing last year that I chaired, you submitted a FY 87 table on ARS Research on Utilization and another on the support of new crops.

Question: The first item on that list was $12.67 million on "New Products/process--Non-food." What would the figure be in this FY 89 budget proposal?

Answer: The FY 89 figure is $13.0 million.

Question: Can you give us specifics on what is included in that category?

Answer: Soybean oil is being converted to useful products such as printer's ink, lauric acid (to replace imports of coconut and palm kernel oil), lubricants, diesel fuel, hydroxy acids (as substitutes for imported castor oil), and other higher value products. Cornstarch is being utilized for the controlled delivery of agrichemicals and for the manufacture of biodegradable plastics useful in agricultural mulch films and trash can liners. Lactose from the dairy industry is being upgraded to health care products.

Question: There is another line for Enzyme/Microbial conversion--non-food funded at $3 million in FY 87. What is the level for FY 89 and what are the specific research projects included in that area?

Answer: The level for FY 89 is $3.4 million. Specific projects include cornstarch modification to mimic imported gums, conversion of fats and oils to substitutes for imported items such as cocoa butter, and using microbial processes to manufacture biopesticides as adjuncts to or substitutes for agricultural chemicals.

Question: Lastly, you listed Biotechnological Manipulation to increase end use value at $8 million. What is the FY 89 figure and what are the specific projects being funded under this category?

Answer: The FY 89 figure is $9.6 million. Biotechnological manipulation is being used to improve cotton and other plants, to increase the quality of cattle hide for leather goods manufacture, and to optimize the conversion of vegetable oils, animal fats, and cornstarch to higher value non-food products.

LOW INPUT AGRICULTURE

Question: I believe that low input agriculture is a crucial area of research. In Iowa, the state legislature has established a research center in that area. Farmers are very concerned about the contamination of ground water and so are their friends in Iowa's cities.

What was the appropriated level in this area in FY 88 and what does your budget call for in FY 89?

Answer: In FY 88, ARS has $102.7 million in research that has potential to reduce costs in agricultural systems. In FY 89, ARS proposes to use $107.7 million in research that has potential to reduce costs to agricultural production systems including $1 million for improved pesticide application research and $4 million for groundwater quality research.

Question: Please provide some detail concerning the specific types of projects that are being funded in this area.

Answer: ARS considers low input agricultural research to include all activities associated with reducing farmer costs, maintaining quality of natural resources and improving farmer profitability. Examples of relevant research includes groundwater quality, pesticide application, biological control, biological nitrogen fixation, and plant genetics and biotechnology to develop crops naturally resistant to stress, insect, and other pests.

HUMAN NUTRITION RESEARCH

Question: To what extent does the existing array of Human Nutrition Research Centers represent a comprehensive capacity to address the many important questions related to human nutrition and human health?

Answer: During fiscal year 1988, the ARS research centers and laboratories conducted human nutrition research on (1) nutritional requirements/health maintenance ($31.0 million), (2) nutrient composition/bioavailability of foods ($9.4 million), and (3) nutritional status/food intake ($3.9 million). Research at these centers is directed to solving nutritional problems of all age groups from infants to the elderly. ARS feels this is a comprehensive and balanced research program. ARS' research will remain focused on developing nutritional knowledge needed to maintain health and reduce risk factors for nutrition related chronic diseases--not toward dietary treatment of diseases.

Question: Which of the Human Nutrition Research Centers currently operated by the Agricultural Research Service presently has a major focus in the area of food selection and health maintenance? In particular, which of the centers presently focuses its efforts on developing the knowledge base necessary to assist the general population in selecting the best foods, not necessarily the best nutrients, from which one can maintain a healthy life?

Answer: The Human Nutrition Research Center at Beltsville, Maryland, has a major focus in the area of food selection and health maintenance with research directed toward (1) measuring food composition and bioavailability of nutrients in foods and diet mixtures, (2) devising diets for health maintenance or reducing dietary risk factors for coronary heart disease, cancer, diabetes, and hypertension, (3) determining amounts of food nutrients required for health maintenance, and (4) identifying the basis for differences in food energy utilization and body weight maintenance among individuals. However, all of the Human Nutrition Research Centers relate to nutritional requirements, nutritional status assessment and bioavailability of nutrients likely to be limiting in the diets consumed by one or more population subgroups.

The Human Nutrition Information Service (HNIS) with its National Food Consumption Survey has primary responsibility for research on food consumption and factors which affect food selection. ARS works closely with HNIS in its research on food intake and nutritive composition of foods.

QUESTIONS SUBMITTED BY SENATOR BYRD

AQUACULTURE LINKED TO PLANT CULTURE

Question: The Senate report accompanying the FY 1988 Continuing Resolution (HJ Res. 395) contained a directive requiring the Agricultural Research Service to initiate a novel project with the Spring and Groundwater Institute within funds appropriated for groundwater research. What are the qualifications of the principal behind this proposal, and does the Agricultural Research Service believe this research to be valuable and of a high priority nature?

Answer: The principals involved are highly qualified with over 75 years of cumulative experience in fish husbandry and aquaculture. All three key personnel hold a Ph.D. degree and are recognized nationally and internationally. They have experience within the university, private business, and government sectors. They jointly represent the type of expertise necessary to bring research and development activities to an applied level for the benefit of agriculture, aquaculture, and the American people.

The Agricultural Research Service believes this research is valuable to movement of aquaculture from its present state to more efficient, intensive culture systems. Within our traditional agriculture research programs it is not our highest priority, but within our emerging aquaculture program, it is certainly a priority.

Question: What is the status of funding for this project and of the initial planning effort by the Institute?

Answer: As to status of funding, we have agreed to multi-year funding levels based on our review of the project's projected annual achievements.

The initial planning effort by the Institute for forming the planning and development team and producing a multi-year program management document with specific work plans was funded from within existing funds in FY 1988.

Question: How much will be allocated to this effort in FY 1988?

Answer: $110,000.

Question: What is the logical next step in the research program proposed by the Institute and how much would this cost in FY 1989?

Answer: The program management document prepared by the Institute proposes the following work for the second year.

- The technical review and analysis for determining both the potentials and limitations for coupling intensive plant and aquatic animal cultures;
- The prototype engineering and design for the fish culture part of the systems; and,

-- Site preparation and prototype construction and installation of the fish culture part of the system.

Based on the Institute's budget projections to do the above, it will require $654,000 in FY 1989. We feel after our review of the proposal, its budget, and the annual achievements, that this is the necessary needed level of funding.

Question: Could this funding level be accommodated within the $4 million increase which the President is seeking for groundwater research in FY 1989?

Answer: The intent of the President's proposal is to provide increased support for research to safeguard the quality of the Nation's groundwater. The aim is to minimize groundwater contamination through more efficient use of agricultural chemicals. We consider this program to be high priority and support the proposal as provided in the President's Budget. The Spring and Groundwater Institute project better fits the ARS aquaculture program. The aim of this project is to develop an integrated aquaculture/agriculture system that maximizes the efficiency of producing certain fish and plants.

Question: What is the remaining work to be completed after 1989 and what would be the annual funding profile for the remainder of this project?

Answer: The remaining work as proposed by the Institute to be completed after 1989 is:

-- The full implementation of the fish system and initiation of the hydroponic and drip irrigation system--this would be Year III.

-- Continued data gathering and evaluation of the fish component system and full implementation of the hydroponic and drip irrigation systems--this would be Year IV.

-- The trial runs, final systems "debugging" demonstrations, business analysis and manualization of the total system for application on a small cottage industry scale or a large commercial scale--this would be Year V--and the last year of the project.

The annual funding profile as proposed by the Institute for this remaining work is as follows:

--Year III - $1,087,000
--Year IV - $1,065,000
--Year V - $ 879,000

QUESTIONS SUBMITTED BY SENATOR COCHRAN

REPAIR AND MAINTENANCE OF FACILITIES

Question: Dr. Kinney, you say in your statement that your "scientists are enthusiastic about our recent initiatives to upgrade and modernize our research laboratories around the country," including the Beltsville Center. ARS justifications show an earmark of $15.6 million for such purpose, but other than the $4.0 million for Beltsville, there is no indication how the remaining $11.6 million will be used."

Can you please be more specific? Is this amount sufficient to complete the work necessary to correct building, environmental, fire and safety code deficiencies of USDA labs?

Answer: No. Our experience with Modernization of ARS Facilities since FY-85 indicates the following typical costs:

Plant Gene Expression Center Albany, California	$5 Million
Plant Molecular Program Beltsville Building 006	$2.6 Million
Various Programs Beltsville Building 007	$5 Million
National Animal Disease Center Ames, Iowa	$3 Million

In view of our experience to date, we feel a conservative estimate of nationwide facilities repair requirements (excluding Beltsville) is in the range of $100 to $150 million. The Agency is in the process of formulating nationwide modernization needs with the development of 6-year facility upgrade plans. The specific dollar information for locations other than Beltsville will not be available until May 1988. Accordingly, decisions on the actual FY-89 allocation of the $11.6 million by project and location have not been finalized at this time.

LABORATORY SPACE

Question. Some years ago, you testified that we had a glut of federal laboratory space. Is that still the case? If so, has any effort been made to dispose of this excess property?

Answer. During the last 5 years, the ARS developed a strategic plan to identify the goals, objectives, and broad research approaches to be pursued in future years. During this strategic planning process, programs were assessed to minimize duplication of effort and to assure that emphasis was being placed on high priority national agricultural problems. As part of this process, our laboratory facilities were assessed to determine which were not being effectively utilized. As a result of this effort, we excessed various properties located across the Nation, e.g., Indio, California; Lake Charles, Louisiana; Meridian, Mississippi;

Brookhaven, New York; Trivoli, Illinois; etc. In support of Executive Order 12512 on Real Property Utilization, we continue to review ARS real property holdings to assure maximum and efficient utilization of land and space. However, it is felt that we are no longer in a "glut" situation.

FIRE ANTS

Question: Dr. Kinney, I was reading in your Quarterly Report of Selected Research Projects that scientists have discovered some new information about fire ant behavior and that this may lead to new poisoned baits that only fire ants will eat. This sounds like good news to those of us from my part of the country who are familiar with the seriousness of the imported fire ant. Are we getting any closer to developing an effective control agent?

Answer: As a result of ARS research in cooperation with industry, four bait toxicants have been commercialized for lawn use and a fifth is on the verge of registration. In addition, research is in progress to acquire whatever residue data are necessary to register one product for use on soybeans and potatoes. A major effort will be made this year to incorporate the trail-following pheromone and the queen recognition pheromone into toxicant baits. This could enhance the attractiveness of these baits specifically for imported fire ants, bringing us another step closer to an effective control agent that can be used in both agricultural and urban environments.

QUESTIONS SUBMITTED BY SENATOR MCCLURE

BARLEY

Dr. Kinney, I continue to be very interested in the ARS barley research program both nationwide and in Idaho. Barley is important to my state. Idaho ranked second in the nation in average barley production in the past five years and utilizes significant amounts of barley as livestock feed and as a raw material for its malting industry.

Question: In response to my inquiry last year, you indicated that the FY 88 ARS budget included a proposed increase of $234,500 for barley germplasm research. Will there be a real increase in FY 88 funding for barley germplasm research at the Aberdeen Research and Extension Center in Idaho, or does new funding at that location represent reallocated funds from terminated barley research programs at the Beltsville Agricultural Research Center?

Answer: The FY 88 funding increase for germplasm research at Aberdeen, Idaho, represents a real increase for barley and other small grains being researched at the Center. The National Small Grain Collection funds, when redirected at Beltsville, will support GRIN and other high priority germplasm services from which barley benefits as do all commodities.

Question: At what other locations and for what projects is increased funding for barley germplasm research earmarked in FY 88?

Answer: Increased funding ($52,200) for barley research in FY88 will be added at Madison, Wisconsin, for development of refined evaluative methods of quality characteristics and at Urbana, Illinois ($76,050) for molecular applications to study virus-vector relationships, virus characterization, and vector physiology involved in barley yellow dwarf virus (BYDV). Redirected funds will be used at the Plant Gene Expression Center at Albany, California ($122,190) to employ new molecular techniques to effect gene transfer for BYDV resistance to enhance breeding lines.

Question: Does the ARS have plans to increase funding for barley germplasm research in FY 89? If so, how much will be made available and at what locations and for what projects?

Answer: No new funding for ARS germplasm research is planned for FY 89.

Question: Is there a need for an ARS barley cytogeneticist position to meet national germplasm evaluation and enhancement goals?

Answer: ARS has one full-time barley cytogeneticist at Tucson, Arizona, and another scientist at Bozeman, Montana, with some cytogenetics effort. We are also recruiting a scientist for an Aberdeen, Idaho, position who has a strong cytogenetics background.

Question: Last year I indicated that I was pleased with the ARS strengthening of its small grains research effort at the Aberdeen Research and Extension Center brought about through the addition of two full-time research positions: one devoted to wheat and one devoted primarily to oats. At that time, we discussed ARS plans to supplement this staffing with a third, full-time position devoted to barley research. You indicated that upon completion of the transfer of funding responsibility for the ARS wheat breeder to the University of Idaho, the ARS planned to fill this position with a full-time barley researcher. What is the timetable for filling this position?

Answer: We plan to fill the new barley position at Aberdeen, Idaho, in FY 89.

Question: I was happy to hear that the ARS has consulted with the National Barley Improvement Committee regarding the specific area of scientific expertise for this new barley position. Can you confirm ARS plans to devote this new position to maintaining the barley breeding, genetics, and germplasm enhancement program currently assigned to this location?

Answer: Yes, ARS intends for the new position to continue Aberdeen's thrust in addressing the national needs associated with barley breeding, genetics, and germplasm enhancement being conducted there.

BARLEY YELLOW DWARF VIRUS

Question: We have previously discussed the need for the ARS to take a more active research role in eliminating the barley yellow dwarf virus (BYDV) threat to stable barley, wheat, and oat production in the U.S. The ARS is to be commended for developing a comprehensive plan of research on BYDV, devoting five scientist years and $1,118,300 in funds to this program in FY 88. The plan indicates that ARS will breed new varieties for tolerance to the virus at Pullman, Washington, and University Park, Pennsylvania. The ARS does not have barley breeding programs at either of these locations. Where will the barley breeding component of the BYDV plan be carried out?

Answer: ARS is not involved directly in barley breeding research for BYDV in terms of development and release of commercial-type varieties. However, much of our virology, gene transfer, and germplasm evaluation research supports the breeding programs conducted by University cooperator's and by private industry. At Pullman, WA, ARS research is focused on wheat germplasm enhancement for BYDV tolerance. Similar research at University Park, PA is on oat germplasm enhancement.

POTATO RESEARCH

Question: Dr. Kinney, I would like to compliment you on your efforts to work with the National Potato Council in directing FY 88 funds to the universities and facilities that have ongoing potato research programs. The Congress did not pass an appropriations bill until late in December and I appreciate your working to see that funds will be available in a timely manner so that work on these important research projects can continue. It is my understanding that ARS has reviewed ongoing potato research projects for ring rot disease, early dying, and varietal development. In reviewing these research programs, what progress has been made toward eliminating these diseases and improving potato varieties?

Answer: Our research on ring rot has shown that use of chemical disinfectants is the best method of control for this bacterial disease. But because of apparent omnipresence of the disease organism in U.S. production areas, eradication has not been possible. A similar situation exists with potato early dying diseases, a complex of soil-borne diseases always present in the soil but expressed only under certain environmental conditions. Our research has shown that placement of two naturally occurring soil organisms on potato pieces at the time of planting provides a measure of biological control. In addition, in 3 of 4 years, experimental plots have shown an 18-22 percent increase in yields. With both diseases, we have a long-term breeding program to develop disease resistance. New potential varieties are screened specifically for these diseases.

Our scientists have made good progress in developing improved potato varieties. All of our programs are cooperative with State agricultural experiment stations. Of the 40 most common or emerging new potato varieties in commercial trade, 24 are from ARS and ARS/State programs. These account for 21 percent of U.S.

potato acreage. Research objectives are to incorporate resistance to ring rot, early dying, and other diseases with yield, fresh market and processing characteristics, long storage potential, and consumer acceptance.

Question: Does ARS see the need for continued funding for these projects in FY 89?

Answer: Yes, we see the need to continue these research projects in fiscal year 1989.

Question: The National Potato Council plans to request funds for research related to aphids, potato beetle, weeds, soils, agricultural engineering, and marketing. Does ARS believe these projects merit consideration and/or additional funding?

Answer: Yes, these are important problems facing the U.S. potato industry. Current ARS research programs are addressing a number of these issues.

U.S. Sheep Experiment Station, Dubois, Idaho

The Dubois Sheep Experiment Station in Idaho is the only ARS research program that has the scientists and resources to conduct range sheep research. Last year, you indicated that ARS expects to continue strong support for the Dubois Sheep Experiment Station and that additional funds would be provided to upgrade existing buildings, feeding equipment and feed grain storage facilities at the Sheep Experiment Station. I am pleased to see that for the coming fiscal year, you have once again emphasized the importance of repairing and maintaining federal research facilities and have included additional funds for this purpose in the FY 89 budget.

Question: What specific improvements have been made at the Dubois Sheep Experiment Station, and how much will be allocated out of proposed FY 89 funds to continue the renovations that have already begun?

Answer: The FY 1987 Appropriation included an increase of $135,000 net to location funds for facilities at the U.S. Sheep Experiment Station, Dubois, Idaho. These funds and other Agency appropriations were combined to meet repair and maintenance needs in FY 1987 and will continue to be utilized in support of the Station in FY 1988 and 1989 for the following projects:

Project	FY 1987
Purchase of grain bin cover	$19,702
Remodel Laboratory - Building 21	31,003
Concrete feedbunks	86,000
Sheetmetal feedbunks	25,446
Water well rennovations	29,487
Fire alarm system	6,000
Housing rennovations	10,300
Miscellaneous repairs	43,311
Total, FY 1987	251,249

Project	FY 1988
Conversion of Building 66 to Nutrition Barn	$56,800
Housing rennovations	20,000
Finish concrete feedbunks	22,000
Erection of grain bin cover	59,500
Stream stabilization	3,600
Energy Retrofit - insulation	60,000
Rennovation of Building 93 for nutrition work	31,200
Replace housing unit	39,000
Miscellaneous repairs	12,000
Total, FY 1988	304,100

Project	FY 1989
Complete conversion of Building 66 for nutrition	$33,000
Building 58 rennovations	85,000
Equipment storage building	50,000
Additional office space	8,000
Rennovation of Building 67 for nutrition	100,000
Continued housing improvement	10,000
Total, FY 1989	286,000

DRY PEAS AND LENTILS

Question: ARS has supported research on genetic mapping on dry peas and lentils at Washington State University. Dry peas and lentils are important to the State of Idaho as a cash crop and the world as a protein source. The pea and lentil industry organizations have provided funding in support of this research as have the universities. I want to insure that ARS continues its financial support for this project.

Answer: We plan to continue this research program.

Question: Is funding for genetic mapping on dry peas and lentils included in the FY 89 budget? At what level compared to FY 88?

Answer: The fiscal year 88 funding level for ARS variety development of dry peas and lentils is $233,900 of which approximately $20,000 is specifically on genetic mapping. The same level of funding is estimated for fiscal year 89.

Question: Is it adequate to support an additional full-time geneticist position?

Answer: The present level of funding is inadequate to support an additional full-time geneticist.

Question: If not, how much additional funds would be required.

Answer: An additional $200,000 would be required for this research.

QUESTIONS SUBMITTED BY SENATOR KASTEN

VACANCY AT MADISON, WISCONSIN

Question: Dr. Kinney, I noted with interest the packet of high-carotene carrot seeds included in the package of products developed with the help of ARS. I was interested to see that this variety of carrot was developed in large part by a researcher at the University of Wisconsin. My understanding is that this researcher passed away some time ago. The position he filled is now vacant. In view of the long history of vegetable production in Wisconsin, its importance to the State's agricultural economy, and the importance of vegetables as potential alternative crops for thousands of hard-pressed farmers in the Middle West, I hope that ARS will fill this position at the University of Wisconsin. Transferring this research capacity to other areas of the country already well endowed with research resources would not be in the interests of Midwestern farmers. Can you assure me that ARS will fill the vegetable research position at the University of Wisconsin?

Answer: We are now recruiting for a new ARS scientist for the vegetable research position at Madison, Wisconsin. There are no plans to move this position to another part of the country. The research, however, will be broadly applicable to much of the U.S., as well as to Wisconsin and other areas of the mid-west.

BARLEY

Question: Dr. Kinney, ARS was very helpful beginning in the appropriations process for Fiscal Year 1986 in helping the University of Wisconsin acquire a nuclear magnetic resonance (NMR) spectrometer unit. One of the projected users of this unit was the Cereal Crops Research Unit at UW.

The CCRU does not now have an NMR specialist assigned to it, with the result that a potentially valuable research tool is being underutilized. Is it possible for ARS to help bring an NMR specialist to the CCRU?

Answer: Since the NMR is owned by the University of Wisconsin, ARS does not plan to hire an NMR specialist for the ARS Cereal Crops Research Unit at Madison, Wisconsin. Other research areas, specifically, molecular biology, are identified as higher priority. ARS scientists have access to NMR analysis of Cereal Crops through Cooperating scientists at the University of Wisconsin.

QUESTIONS SUBMITTED BY SENATOR HATFIELD

RESEARCH IN OREGON

Question: Last year the ARS office in Portland, Oregon, was closed and fifteen employees were displaced. I was assured at the time that agriculture research in the State would not suffer as a result of the office closure. Please detail for the committee the commitment ARS continues to have in Oregon. Compare your FY 1989 proposal with actual research commitments for FY 1988.

Answer: The estimated funding for the State of Oregon in FY 1988 and FY 1989 follows:

Location	FY 1988 Estimated	FY 1989 Estimated
Burns, Oregon	$331,600	$333,900
Corvallis, Oregon	3,770,500	3,802,800
Pendleton, Oregon	1,062,400	1,079,300
TOTAL, Oregon	5,164,500	5,216,000

The increase in Fiscal Year 1989 over 1988 is for estimated pay costs.

AGRICULTURE RESEARCH BUILDING, OREGON STATE UNIVERSITY

Question: The fiscal year 1988 appropriations measure allotted $10 million for a new agriculture research building at Oregon State University. Your budget proposal indicates that $7.5 million remains to be obligated for that project. Must the balance of these funds be obligated in FY 1989 or will they remain available on an "as needed" basis?

Answer: The fiscal year 1988 Appropriations Act provides that only $2.5 million of the $10 million allotted to the Oregon State University agriculture research building is available in fiscal year 1988. The remaining $7.5 million will become available in fiscal year 1989. The Act also provides that the funds are to remain available until expended. At this time, Oregon State University officials have indicated to CSRS that they plan to request the remaining $7.5 million in fiscal year 1989.

COOPERATIVE STATE RESEARCH SERVICE

QUESTIONS SUBMITTED BY SENATOR BURDICK

WATER QUALITY

Question: The Experiment Stations and the State Universities and Land-Grant Colleges are proposing a $25 million initiative on water quality research and management. They cite this research as the number one priority for the nation. What is your assessment of the water quality situation in this country?

Answer: There is a water quality problem in numerous areas of the country. This is well documented by scores of statements in the last three years by State and Federal agencies in reports and conferences, which have highlighted non point pollution sources of water contamination. The seriousness of the problem varies with the types of contaminant found, their concentration and potential for toxic effects in humans, animals, plants and birds. In many cases there is insufficient scientific data to make well informed decisions possible.

Improved standards are needed for collecting representative and accurate soil and groundwater samples of agricultural fields and watersheds. Also, more information is needed on which to base sound agricultural production management decisions and regulatory actions that may be available for improvement of water quality.

Question: Do you feel that it should receive top priority for research funding?

Answer: If more rapid progress toward understanding agriculturally related pollution problems is desired, groundwater research must be considered a top priority.

Question: What is your view of the $25 million proposed by the experiment stations and universities?

Answer: The proposal appears to be based upon well documented evaluations of the difficulty, magnitude, and costs associated with conducting the water quality research the experiment stations and universities believe is necessary.

BUILDINGS AND FACILITIES

Question: The Committee understands that the feasibility studies, as well as the report on biotechnology centers are being conducted by CSRS. The committee expects these reports to be submitted prior to its mark up of the fiscal year 1989 appropriations bill. When may we expect to receive these feasibility studies?

Answer: The Cooperative State Research Service hopes to submit these feasibility studies to Congress in July.

Question: The biotechnology report was to be submitted prior to these hearings. Obviously, this has not occurred. When do you expect this report to be available?

Answer: At this time the biotechnology report is being finalized and cleared and should be submitted this Spring.

STRATOSPHERIC OZONE RESEARCH

Question: You propose a new competitive research grant program for stratospheric ozone research in the amount of $7,400,000. What type of research do you expect to be conducted under this grant; when do you expect results; and what is the average size of grants that you expect to make?

Answer: The relatively large request for work on the consequences of stratospheric ozone depletion on crops reflects the urgent need to develop an understanding of possible deletorious effects on major crops and forest system. The main problem is that we do not know precisely how our major crop plants would be affected by the increases in ultraviolet radiation, UV-B, that may result even from very small changes in the amount of ozone in the earth's stratosphere.

We know a great deal about the effects of UV radiation on animal cells, particularly as a result of concern about skin cancer in humans. Similar information is lacking about the effects of UV on plant cells and on productivity of our major crops in general. From laboratory experiments, we know that UV radiation is detrimental for a wide variety of plant species. We know that some important crops, e.g. tomato, sugar beets, onions, lettuce, etc., are among the most sensitive of plant species. We know that the plant's natural defenses against UV radiation, such as leaf waxes, pigments, and other organic molecules that absorb UV, and DNA repair mechanisms, are less effective at the shorter wavelengths and at increased doses of the UV-B range. There is a strong possibility that our major crops may be endangered because of increased UV radiation, but no one can predict the exact consequences of the changes in ozone levels in the stratosphere. It is in the national interest to implement a program of basic research which, perhaps 10 years down the road, can provide the means to ameliorate what may be an inevitable consequence of the emission into the upper atmosphere of contaminants from such things as supersonic aircraft engines, the use of certain propellants for pressurized can products, and industrial pollution.

Differences in sensitivity of plants to UV radiation have been attributed to differences in the optical properties of the epidermal layers. This needs to be confirmed by physiologists, biochemists, and plant geneticists. The results would be of benefit to plant improvement programs which are dependent on traditional breeding or modern gene transfer techniques. On a very different area of research, it is known that insects see in the near ultraviolet; thus, alteration in the quality of UV may affect their perception of flower colors, essential for pollination, sex recognition, etc. Work in this area would require close cooperation among biophysicists, entomologists, ecologists, chemists, and others. A $7.4 million appropriation for the Competitive Research Grants program component would fund approximately 60 scientists at a level of $125,000 a year.

PLANT SCIENCE CENTERS

Question: Your budget request proposes $3.4 million for Plant Science Centers. I understand that this is a joint project between USDA/Department of Energy/and the National Science Foundation. We did not include special money for this in fiscal year 1988; however, it would appear that you are spending money this year for these Centers. How much money is being spent in fiscal year 1988 and what is the source of that funding?

Answer: Congress did not appropriate funds specifically designated for Plant Science Centers in the Competitive Research Grants budget for the USDA. After discussions with representatives of agriculture appropriations subcommittees, it was decided to proceed with the Centers because of the strong interest generated by the research community and the expressed commitment from the other participating agencies. The current plan calls for USDA to fund $2 million of the proposals submitted in 1988. These proposals have been received but the review for scientific merit will not be complete until late summer. Since the awards could not be made until late in the fiscal year, it is not yet certain whether we will fund all of the 1988 USDA Centers from the 1988 Competitive Grants Program or some may be funded under the requested program designed for Centers in our 1989 budget. We will keep the Committee informed as our plans are finalized.

Question: How many centers are you establishing in 1988 and how many do you expect to establish in fiscal year 1989?

Answer: Fifty-six proposals for the Centers were received and presently are being reviewed. The number of centers to be funded will depend on the quality and nature of the proposals, the recommendations from the review panels, and the funding necessary to allow adequate operation of those Centers that may be approved. At this time we are estimating three to six centers in 1988 and maybe five to ten centers in 1989, supported under the joint USDA, DOE, NSF program.

Question: Where are these Centers located, and how are they composed?

Answer: No Centers have been established as yet. It is expected that decisions as to number and location of the Centers will be made on or about September 1, 1988.

AQUACULTURE

Question: Funding for aquaculture is provided in various accounts through CSRS and ARS. Please provide for the committee the total amount of aquaculture funding by location, including the type of research being conducted?

Answer: CSRS research conducted under these accounts has addressed a number of problems facing the aquaculture industry including disease diagnosis and prevention, broodstock improvement, nutrition of aquatic organisms, improvements in water quality, off-flavor in channel catfish, and alternative aquacultural production systems. Several different commercially important species as well as potentially important species have been addressed.

The most recent data available from the Current Research Information System on CSRS funding for aquaculture research by location is for fiscal year 1986 and we will provide this information.

Cooperative State Research Service
Fiscal Year 1986

State/Location	Funding Levels
Alabama: Auburn University	$148,523
Arkansas: University of Arkansas, Pine Bluff	288,714
California: University of California, Berkeley	65,297
University of California, Davis	80,873
Connecticut: University of Connecticut, Storrs	2,416
Delaware: Delaware State University	89,464
Florida: University of Florida	14,479
Georgia: University of Georgia	51,987
Guam: University of Guam	25,085
Hawaii: University of Hawaii	204,434
The Oceanic Institute, Warmanalo, Hawaii	699,865
Indiana: Purdue University	33,643
Iowa: Iowa State University	3,363
Kentucky: Kentucky State University	262,272
Louisiana: Louisiana State University	122,229
Maine: University of Maine	73,121
Maryland: University of Maryland	92,551
University of Maryland, Eastern Shore	5,926
Massachusetts: University of Massachusetts	45,246
Tufts University	10,300
Michigan: Michigan State University	54,132
Minnesota: University of Minnesota	31,869
Mississippi: Mississippi State University	538,537
Alcorn State University	81,100
Gulf Coast Research Laboratory	484,068
Missouri: University of Missouri	43,555
Montana: Montana State University	15,094
Nebraska: University of Nebraska	3,258
Nevada: University of Nevada	26,489
New Hampshire: University of New Hampshire	66,485
New Jersey: Rutgers University	79,282
New York: Cornell University	53,425
North Carolina: North Carolina State University	33,451
Ohio: Ohio State University	13,084
Oklahoma: Langston University	75,460
Oregon: Oregon State University	107,804
Pennsylvania: Pennsylvania State University	1,698
Puerto Rico: University of Puerto Rico	42,942
Rhode Island: University of Rhode Island	176,071
South Carolina: Clemson University	73,727
South Carolina State College	37,073
South Dakota: South Dakota State University	41,191
Tennessee: University of Tennessee	64,854

Texas:	Texas A&M University	31,346
	Southwest Texas State University	34,795
Virgin Islands:	College of the Virgin Islands	164,643
Virginia:	Virginia State University	218,436
Washington:	Washington State University	79,770
	Total	4,993,427

AQUACULTURE CENTERS

Question: Regarding the aquaculture centers, what is the status at each location? What type of research will be done at each location, including the amounts and the plans for the future?

Answer: The Centers in Hawaii, Massachusetts, Mississippi, and Washington are all functional. The Centers at Washington and Mississippi have initiated regional research and extension projects. The Western Regional Aquaculture Center's projects concern disease control, alternative protein sources for Salmonids, improving fish and shellfish broodstocks through genetics, understanding the effect of nutrition on the reproductive performance of broodstock, Extension projects in aquaculture, and a shellfish sanitation workshop. The Southern Center's projects concern understanding regional and national markets for aquaculture projects, the preparation of technical production manuals, and improving and maintaining water quality. The Centers at Hawaii and Massachusetts have identified their priorities and are finalizing their programs. These projects are funded at a total of $718,000, the same amount available for other Centers except the North Central Center which is funded at $500,000. The new Center for the North Central Region funded in FY 1988, to be administered jointly by Michigan State University and Iowa State University, is in the process of planning its program.

COMPETITIVE RESEARCH GRANTS

Question: For each of the Competitive Research Grant categories, please provide the following information for fiscal year 1987 and the estimates for fiscal year 1988: Number of Grants awarded, location of each grantee and the amount awarded, the type of research being conducted.

Answer: At this time, four fiscal year 1988 grants have been awarded and a list of these grants follows. A total of 363 Competitive Research Grants were awarded in fiscal year 1987 and a list of these grants follows.

COMPETITIVE RESEARCH GRANTS

GRANTS AWARDED FOR FISCAL YEAR 1988

PROGRAM AREA: BIOLOGICAL STRESS-PLANT PATHOLOGY

Organization	Principal Investigator	Grant Number Proposal Number	Amount	Agreement Period From To	Title
Univ. of California Riverside, CA 92521	E. G. Platger	85-CRCR-1-1629 8800081	$50,000	09-01-85 08-31-88	Molecular Diagnostics of Plant Parasitic Nematodes

PROGRAM AREA: PLANT SCIENCE - BIOTECHNOLOGY

Organization	Principal Investigator	Grant Number Proposal Number	Amount	Agreement Period From To	Title
Univ. of California Los Angeles, CA 90024	R. B. Goldberg	88-37234-3277 8800002	$5,000	03-15-88 09-30-88	Molecular Basis of Plant Development/A UCLA Symposium
Univ of California Los Angeles, CA 90024	C. F. Fox	88-37234-3288	$5,000	03-15-88 09-30-88	Molecular Biology of Plant-Pathogen Interactions/A UCLA Colloquium
Skidmore College Saratoga Springs, NY	D.S. Domozych	88-37234-3292	$5,000	04-01-88 09-30-88	Membrane Traffic and Recycling in Eukaryotes (A Workshop)

COMPETITIVE RESEARCH GRANTS PROGRAM

The following tabulation lists the funds awarded in the various areas in fiscal year 1987 under the Competitive Research Grants Program.

Plant Science		$11,008,176
Biological Nitrogen Fixation	$1,713,412	
Biological Stress on Plants	4,949,400	
Genetic Mechanisms for Crop Improvement	1,818,000	
Photosynthesis	2,060,000	
Soybean Research	467,364	
Human Requirements for Nutrients		$ 2,253,396
Biotechnology		$18,027,168
Plant Molecular Biology	3,399,878	
Plant Growth and Development	3,643,290	
Response to Physical Stress (Plants)	1,793,000	
Response to Biological Stress (Entomology)	971,000	
Response to Biological Stress (Plant Path)	1,620,000	
Animal Molecular Biology	3,525,000	
Animal Growth and Development	3,075,000	

This program is administered under the authority of Section 2(b) of P.L. 89-106, 7 U.S.C. 450i(b), as amended by Section 1414(b) of P.L. 95-113 and Section 1415(a) of P.L. 97-98, and in accordance with Sections 6301-6308 of P.L. 97-258. Section 1419 of P.L. 95-113, as amended, authorized grants for the Alcohol Fuels Research Program.

U.S. colleges and universities, other research institutions, Federal agencies, private organizations or corporations, and individuals may submit proposals.

PLANT SCIENCE

Grants are awarded in four broad areas of research in plant biology: nitrogen fixation and metabolism, biological stress on plants, genetic mechanisms for crop improvement, and photosynthesis. A brief description of each area of research, with a listing of research grants made during fiscal year 1987, follows.

Animal Science	$4,056,492
Insect Pest Science	$2,704,644
Alcohol Fuels Research	$ 487,272
TOTAL	$38,537,148

Biological Nitrogen Fixation

Grants in this area support research to find ways to naturally increase the nitrogen available to plants. Lack of nitrogen for plant growth is the most common limiting factor in crop agriculture. This research will contribute to understanding nitrogen-fixing mechanisms in both symbiotic and free-living organisms, as well as the fate of fixed nitrogen.

The objective of this research is to build a foundation of basic information concerning nitrogen fixation, related nitrogen metabolism and nitrogen cycling. This information should help in the enhancement of the process in currently known systems and provide a base for developing new nitrogen-fixing associations, by genetic transfer or other means, for crop species not now possessing such capability.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: NITROGEN FIXATION

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California Berkeley, CA 94720	John B. Neilands	85-CRCR-1-1633 8702802	$50,000	09-01-85 08-31-88	Iron Assimilation in Symbiotic Nitrogen-fixing Microorganisms
Univ. of California Davis, CA 95616	Donald A. Phillips	87-CRCR-1-2552 8700987	$100,000	09-01-87 08-31-89	The Effect of Flavonoids on Nodulation and Growth in Alfalfa
Univ. of California Irvine, CA 92717	Barbara K. Burgess	85-CRCR-1-1635 8702764	$70,000	08-01-85 07-31-88	Substrate Reactions of Nitrogenase
Univ. of Connecticut Storrs, CT 06268	David R. Benson	85-CRCR-1-1657 8701457	$90,000	07-01-85 06-30-89	Developmental Biology of *Frankia*
Univ. of Florida Gainesville, FL 32611	Robert R. Schmidt	87-CRCR-1-2476 8701385	$90,000	09-01-87 08-31-89	Sequences of 2 Ammonia-induced Glutamate Dehydrogenases, their Genes and mRNAs

Univ. of Chicago Chicago, IL 60637	Robert Haselkorn	87-CRCR-1-2452 8701374	$55,000	07-01-87 06-30-88	Rearrangement of Fixation Genes in Cyanobacterial Heterocyst Differentiation
Northwestern Univ. Evanston, IL 60201	Brian M. Hoffman	87-CRCR-1-2430 8701573	$55,000	08-01-87 07-31-88	Single-Crystal and Solution ENDOR Studies of Nitrogenase
Northwestern Univ. Evanston, IL 60201	Brian Hoffman	87-CRCR-1-2553 8701456	$4,000	09-01-87 03-31-88	Gordon Research Conference on Metals in Biology
Purdue Res. Fdn. West Lafayette, IN 47907	Jeffrey T. Bolin	87-CRCR-1-2429 8701602	$55,000	08-01-87 07-31-88	Three-Dimensional Structure of Nitrogenase
Kansas State Univ. Manhattan, KS 66506	R. Krishnamoorthi	87-CRCR-1-2396 8701262	$88,000	07-15-87 07-31-89	Nuclear Magnetic Resonance Investigation of Nitrite Reductase
Amherst College Amherst, MA 01002	David M. Dooley	87-CRCR-1-2477 8701618	$90,000	09-01-87 08-31-89	Active Site Structure and Function of Copper Enzymes in Denitrification
Harvard Univ. Cambridge, MA 02138	John G. Torrey	87-CRCR-1-2461 8701450	$55,000	08-01-87 07-31-88	Causes of Ineffective Root Nodulation in Actinorhizal Plants
Univ. of Maine Orono, ME 04469	John D. Tjepkema	87-CRCR-1-2431 8701337	$55,000	09-01-87 08-31-88	Nitrogen Fixation in Actinorhizal Plants: Hemoglobins and Gas Exchange
Univ. of Maine Orono, ME 04469	Christa Schwintzer	87-CRCR-1-2440 8701341	$90,000	09-01-87 08-31-89	The Ecology and Physiology of Nitrogen Fixation in Actinorhizal Plants

Michigan State Univ. East Lansing, MI 48824	Michael Thomashaw	85-CRCR-1-1739 8702768	$65,000	08-15-85 08-31-88	Developmental and Physiological Gene Regulation in the Rhizobium/Legume Symbiosis
Univ. of Missouri Columbia, MO 65211	David W. Emerich	85-CRCR-1-1734 8701620	$110,000	09-01-85 08-31-89	Symbiotic Nitrogen Fixation: The Role of Malate
Univ. of Missouri* Columbia, MO 65211	Dale G. Blevins	87-CRCR-1-2466* 8701617	$5,000*	08-01-87 07-31-89	Ureide Metabolism in Nodulated Soybeans
Dartmouth College Hanover, NH 03755	Dean E. Wilcox	87-CRCR-1-2485 8701614	$90,000	08-01-87 07-31-89	The Catalytic Mechanism of Urease
Ohio State Univ. Res. Fdn. Columbus, OH 43212	John G. Streeter	87-CRCR-1-2511 8701179	$55,000	09-01-87 08-31-88	Role of a,a-trehalose in Rhizobium and the Rhizobium-legume Symbiosis
Ohio State Univ. Res. Fdn. Columbus, OH 43212	Wolfgang D. Bauer	86-CRCR-1-2118 8702828	$50,000	09-15-86 09-30-88	Mechanisms Regulating Nodule Formation in Soybean
Oregon State Univ. Corvallis, OR 97331	Harold J. Evans	87-CRCR-1-2472 8701313	$98,790	09-01-87 08-31-88	Regulation of Expression of Hydrogen Recycling Genes in Bradyrhizobium japonicum

*Split-funded with Soybean research area for the amount of $120,664.

Oregon State Univ. Corvallis, OR 97331	Peter J. Bottomley	87-CRCR-1-2471 8701603	$110,000	08-01-87 07-31-89	Nodulation and Autecology of Soil-Borne *Rhizobium trifolii*
Univ. of Tennessee Knoxville, TN 37996	Gary Stacey	87-CRCR-1-2512 8701454	$55,000	09-15-87 09-30-88	Genetics of Auxin Synthesis in *Bradyrhizobium japonicum*
Univ. of Wisconsin Madison, WI 53706	Eric W. Triplett	87-CRCR-1-2571 8701543	$90,000	09-15-87 09-30-89	Trifolitoxin: Structure, Mode of Action, and Genetics of Production
Univ. of Wisconsin* Madison, WI 53706	Gary P. Roberts	87-CRCR-1-2561* 8701402	$37,622*	09-01-87 08-31-89	Analysis of a Regulatory System for Nitrogenase in *Rhodospirillum rubrum*

TOTAL $1,713,412

*Split-funded with Biotechnology-Plant Molecular Biology/Nitrogen Fixation research area for the amount of $72,373.

Biological Stress on Plants - Entomology/Nematology

Research grants in this area support studies on stresses on plants arising from their interactions with insects, nematodes, or other invertebrates such as mites. The ultimate goal of the program is to support research which will lead to ways of reducing losses in plant productivity from damage caused by these organisms.

Research into the basic biology of these invertebrates is encouraged as is research on plant/invertebrate interactions. Specific emphasis is placed on but not limited to the following areas: invertebrate growth, development, and reproduction (physiology, biochemistry and molecular biology); mechanisms (biochemical and genetic) of plant defenses against invertebrate attack; physiological and ecological interactions of invertebrate control agents (invertebrates, virus, bacteria, fungi and other microorganisms) with their hosts; invertebrate behavioral physiology; population dynamics on the genetic, ecological and evolutionary level; and fundamental basis of pesticide toxicity and resistance.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOLOGICAL STRESS - ENTOMOLOGY

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of Arkansas Fayetteville, AR 72701	Rose C. Gergerich	87-CRCR-1-2355 8700493	$120,000	07-01-87 06-30-89	The Role of Regurgitant and Virus Translocation in Virus Transmission by Beetles
Northern Arizona Univ. Flagstaff, AZ 86011	Thomas G. Whitham	87-CRCR-1-2361 8700709	$100,000	08-01-87 07-31-89	Interaction of Herbivory, Stress, and Host Resistance in Pinyon Pine
Univ. of Arizona Tucson, AZ 85721	Haruhiko Itagaki	87-CRCR-1-2362 8700458	$120,000	09-01-87 08-31-90	Central Processing of Chemosensory Information in Larval Pest Lepidoptera
Univ. of Arizona Tucson, AZ 85721	T. A. Christensen	87-CRCR-1-2434 8700470	$90,000	08-01-87 07-31-89	Central Processing of Behaviorally Relevant Odors in Pest Insects
Univ. of California Davis, CA 95616	Sean S. Duffey	87-CRCR-1-2371 8700693	$100,000	07-01-87 06-30-89	Biochemical Factors Affecting Use of Plant Nitrogen by Herbivorous Insects

Univ. of California Riverside, CA 92521	C. J. Lovatt	87-CRCR-1-2288 8700240	$90,000	07-01-87 06-30-89	Nematode Root Infection Causes Ammonia Toxicity, Reduces Hormone Levels and Bloom
Univ. of Florida Gainesville, FL 32611	Pauline O. Lawrence	87-CRCR-1-2383 8700433	$90,000	08-01-87 07-31-89	Host-Initiated Molting of a Fruit Fly Parasitoid: An Investigation in vitro
Univ. of Illinois Urbana, IL 61801	R. A. Larson	87-CRCR-1-2374 8701040	$100,000	09-01-87 08-31-89	Phototoxic Plant Defensive Compounds and their Modes of Action
Univ. of Illinois Urbana, IL 61801	Robert L. Metcalf	87-CRCR-1-2373 8700115	$100,000	08-01-87 07-31-90	Chemical Ecology of Diabroticites: Basic and Applied Aspects
Purdue Res. Fdn. West Lafayette, IN 47907	Larry L. Murdock	87-CRCR-1-2297 8700420	$100,000	07-01-87 06-30-90	Proteinase Inhibitors for Host Plant Resistance
Purdue Res. Fdn. West Lafayette, IN 47907	V. R. Ferris	87-CRCR-1-2289 8700654	$100,000	09-01-87 08-31-89	2-D Protein Patterns in Cyst Nematodes
Kansas State Univ. Manhattan, KS 66506	Marion O. Harris	87-CRCR-1-2412 8700527	$100,000	08-01-87 07-31-90	Quantifying Behavioral Responses of Adult Hessian Flies to Host and Non-hosts

Univ. of Kentucky Res. Fdn. Lexington, KY 40546	Kenneth F. Haynes	87-CRCR-1-2410 8700668	$120,000	07-01-87 06-30-89	Redundancy in Chemical Communication as a Buffer Against Environmental Noise
Univ. of Kentucky Res. Fdn. Lexington, KY 40506	Paul A. Weston	87-CRCR-1-2348 8700675	$100,000	06-01-87 05-31-89	Tomato Trichome-mediated Resistance to Spider Mites and Its Stability
Louisiana State Univ. & A&M College Baton Rouge, LA 70803	Thomas C. Sparks	87-CRCR-1-2384 8700428	$90,000	09-01-87 08-31-89	Regulation of JH Metabolism in Pest Lepidoptera
Univ. of Massachusetts Amherst, MA 01003	Ronald J. Prokopy	87-CRCR-1-2385 8700564	$50,000	09-01-87 08-31-88	Food Foraging Behavior of Apple Maggot and Mediterranean Fruit Flies
Univ. of Maryland College Park, MD 20742	Pedro Barbosa	87-CRCR-1-2363 8700275	$90,000	08-01-87 07-31-89	The Role of Tri-trophic Level Interactions in Localized Specialization of Parasitoids
Michigan State Univ. East Lansing, MI 48824	J. M. Scriber	87-CRCR-1-2581 8700616	$150,000	09-15-87 09-30-90	Chemical Ecology of Papilionidae: Physiology and Biochemistry of Host Plant Use
North Carolina State Univ. Raleigh, NC 27695	R. J. Lindermann	87-CRCR-1-2417 8700634	$100,000	09-01-87 08-31-89	Design, Synthesis and Assay of Inhibitors of Juvenile Hormone Esterase

North Carolina State Univ. Raleigh, NC 27695	George G. Kennedy	85-CRCR-1-1615 8702371	$50,000	07-01-85 06-30-88	Mechanisms of Multiple Insect Resistance in a Wild Tomato Species
Univ. of Nevada Reno, NV 89557	M. de Renobales	87-CRCR-1-2293 8700346	$100,000	07-01-87 06-30-89	Biosynthesis of Insect Cuticular Lipids-Potential for Insect Control
Cornell Univ. Ithaca, NY 14853	Maurice J. Tauber	87-CRCR-1-2376 8700301	$90,000	08-01-87 07-31-89	Phenological Responses of Colorado Potato Beetle to Resistant Potato Varieties
Cornell Univ. Ithaca, NY 14853	Sara Via	87-CRCR-1-2375 8700578	$45,000	08-01-87 07-31-88	Experimental Estimates of the Potential for Evolution in a Crop Pest
Cornell Univ. Ithaca, NY 14853	Anthony M. Shelton	87-CRCR-1-2422 8700276	$100,000	07-01-87 06-30-90	Habitat Selection by an Aphid Parasitoid
Ohio State Univ. Res. Fdn. Columbus, OH 43212	Paul L. Phelan	87-CRCR-1-2294 8700621	$100,000	07-01-87 06-30-89	Chemical Ecology of Nitidulid Beetles, Pathogenic Fungi, and their Plant Hosts
Oklahoma State Univ. Stillwater, OK 74078	J. W. Dillwith	87-CRCR-1-2377 8700679	$45,000	08-01-87 07-31-88	Role of Plant Epicuticular Lipids in Aphid Interactions with Alfalfa

Oklahoma State Univ. Stillwater, OK 74078	R. C. Johnson	87-CRCR-1-2378 8700367	$50,000	08-01-87 07-31-88	Molecular Adaptations for Greenbug Resistance Under Drought
Univ. of Texas Austin, TX 78712	Mary A. Rankin	87-CRCR-1-2413 8700577	$50,000	09-01-87 08-31-88	The Cost of Migration in Melanoplus sanguinipes
Washington State Univ. Pullman, WA 99164	Kemet D. Spence	87-CRCR-1-2386 8700408	$50,000	08-01-87 07-31-88	Regulation and Mode of Action of a Coagulation-initiating Insect Protein

TOTAL $2,590,000

Biological Stress on Plants - Plant Pathology and Weeds

Research grants in this program support studies on stress on plants arising from their interactions with other plants and other microbial agents including fungi, bacteria, viruses, and mycoplasma-like organisms. The ultimate goal is to reduce losses in plant productivity from damage caused by biologically generated stresses.

Emphasis in this area is on studies that will enhance understanding of how stressful interactions are established between plants and other biological agents; how such interactions are influenced by environment and other factors inherent to the interacting organisms; how the interactions reduce plant productivity and usefulness to man; how plants react to stress generated by such interactions; and how the damage of such interactions may be reduced or eliminated.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOLOGICAL STRESS - PLANT PATHOLOGY

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California Berkeley, CA 94720	Steven E. Lindow	87-CRCR-1-2542 8700740	$75,000	09-01-87 08-31-88	Interactions of Stresses Due to Pathogens and Competition on Plant Growth
Univ. of California Davis, CA 95616	John M. Duniway	85-CRCR-1-1580 8702397	$50,000	07-01-85 06-30-88	Influence of Environmental Stresses on the Development and Impact of Phytophthora Root Rot
Univ. of California Riverside, CA 92521	Jodie S. Holt	87-CRCR-1-2326 8700185	$80,000	07-01-87 06-30-89	Physiological Basis for Competitive Relationships of Cotton and Perennial Weeds
Univ. of Georgia Res. Fdn. Athens, GA 30602	Timothy P. Denny	87-CRCR-1-2314 8700516	$85,900	07-01-87 06-30-89	The Genetic Basis of Host Range Specificity in *Pseudomonas solanacearum*
Iowa State Univ. of Science & Technology Ames, IA 50011	Peter A. Peterson	87-CRCR-1-2448 8700293	$100,000	07-15-87 07-31-90	Transposon Tagging of Agriculturally Important Disease-Resistant Genes in Maize

Iowa State Univ. of Science & Technology Ames, IA 50011	Charlotte Bronson	87-CRCR-1-2343 8700682	$100,000	07-15-87 06-30-90	Genome Organization of the Fungal Maize Pathogen *Cochliobolus heterostrophus*
Univ. of Illinois Urbana, IL 61801	Stephen K. Farrand	87-CRCR-1-2353 8700625	$100,000	09-01-87 08-31-89	Crown Gall Control: Plasmid Engineering to Maximize Control and Minimize Failures
Univ. of Illinois Urbana, IL 61801	Constantin Rebeiz	87-CRCR-1-2342 8700130	$100,000	07-01-87 06-30-89	Identification of Natural and Synthetic Photodynamic Herbicide Modulators
Univ. of Kentucky Res. Fdn. Lexington, KY 40506	John G. Shaw	85-CRCR-1-1536 8702535	$45,000	07-01-85 06-30-88	Viral Gene Expression in Potyvirus Infections
Univ. of Kentucky Lexington, KY 40546	Robert J. Shepherd	86-CRCR-1-2261 8702779	$50,000	09-15-86 09-30-88	Defining and Mapping the Genes of Cauliflower Mosaic Virus
Beltsville Area ARS, USDA Beltsville, MD 20705	Kevin J. Hackett	87-CRCR-1-2372 8700707	$80,000	06-15-87 06-30-90	Cultivation and Detection of Mycoplasmalike Organisms
Beltsville Area ARS, USDA Beltsville, MD 20705	C. Jacyn Baker	87-CRCR-1-2304 8700613	$128,000	08-01-87 07-31-89	Molecular Mechanisms for Plant/Pathogen Recognition

Univ. of Maryland College Park, MD 20742	Alan Collmer	87-CRCR-1-2352 8700624	$74,500	07-01-87 06-30-88	Genetics of Pectate Lyase Isozymes and Pathogenicity in *Erwinia chrysanthemi*
Michigan State Univ. East Lansing, MI 48824	M. F. Thomashow	87-CRCR-1-2366 8700620	$100,000	09-01-87 08-31-89	Virulence Genes of *Agrobacterium tumefaciens*
Northern States Area ARS, USDA Minneapolis, MN 55401	Alan P. Roelfs	85-CRCR-1-1534 8702382	$44,000	07/01/85 06/30/88	Genetic Diversity in Sexual and Asexual Populations of Rust Fungi in Agroecosystems
Univ. of Missouri Columbia, MO 65211	A. K. Chatterjee	87-CRCR-1-2504 8700705	$150,000	09-15-87 09-30-89	Molecular Genetics of Extracellular Pectate Lyases of *Erwinia carotovora*
Univ. of Nebraska Agric. Expt. Stn. Lincoln, NE 68583-0704	Herman W. Knoche	85-CRCR-1-1542 8702487	$50,000	07-01-85 06-30-88	Identification of Host Components Determining Resistance of Susceptibility to Toxins
Cornell Univ. Ithaca, NY 14853	James R. Aist	87-CRCR-1-2306 8700518	$120,000	07-01-87 06-30-89	Calcium Regulation in Secretion and Disease Resistance
Cornell Univ. Ithaca, NY 14853	William E. Fry	87-CRCR-1-2336 8700456	$100,000	07-01-87 06-30-89	Epidemiological Impact of Sexual Recombination in *Phytophthora infestans*

Cornell Univ. Ithaca, NY 14853	Milton Zaitlin	87-CRCR-1-2549 8700398	$120,000	09-01-87 08-31-89	The Association of Plant Viruses with Chloroplasts
Ohio State Univ. Res. Fdn. Columbus, OH 43212	Laurence V. Madden	87-CRCR-1-2307 8700332	$117,000	09-01-87 08-31-89	Rain Splash Dispersal of Fungal Pathogens of Strawberry
Oregon State Univ. Corvallis, OR 97331	Steven Radosevich	87-CRCR-1-2453 8700695	$80,000	08-01-87 07-31-89	Interactions of Germination, Growth, Reproduction and Environment of Weed Communities
Utah State Univ. Logan, UT 84322	Neal K. VanAlfen	87-CRCR-1-2360 8700706	$80,000	08-01-87 07-31-89	Identification of a Viral Gene that Regulates Fungal Virulence
Washington State Univ. Pullman, WA 99164	Timothy D. Murray	87-CRCR-1-2439 8700636	$100,000	07-15-87 07-31-89	Effect of Soil pH on Incidence and Severity of *Cephalosporium* Stripe of Wheat
Univ. of Washington Seattle, WA 98195	Walter Halperin	87-CRCR-1-2369 8700463	$30,000	09-15-87 09-30-88	Molecular and Genetic Studies of *Agrobacterium tumefaciens* Attachment
Univ. of Wisconsin Madison, WI 53706	Jennifer L. Parke	87-CRCR-1-2327 8700318	$100,000	09-15-87 09-30-89	Population Dynamics of a Biological Control Agent in the Rhizosphere

Univ. of Wisconsin Madison, WI 53706	Gustaaf A. deZoeten	87-CRCR-1-2345 8700427	$100,000	09-01-87 08-31-89	A Recombinant DNA Approach to Understanding the Pea Enation Mosaic Virus Genome
			TOTAL $2,359,400		

Genetic Mechanisms for Crop Improvement

This program covers the broad area of plant genetics. The goal of the program area is to encourage quality research projects that will contribute to the increased basic understanding of biological phenomena relevant to the development of superior varieties of agricultural crops. New and innovative experimental approaches are emphasized at all levels including the molecular, biochemical, cellular and whole plant levels. The research areas that are given high priority are: (a) acquisition of basic information on the structure, function and expression of plant nuclear organellar genes, (b) development of methods for gene transfer and genetic engineering, (c) development of new methods for producing and selecting agronomically important quantitative and qualitative traits, (d) identification of plant characteristics or genes which are important targets for genetic manipulation, and (e) genetic studies on the alteration and utilization of unadapted and wild germplasm using new and novel approaches.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: GENETIC MECHANISMS

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California Berkeley, CA 94720	Peter H. Quail	87-CRCR-1-2585 8702806	$130,000	09-01-87 08-31-88	The Phytochrome Gene: Structure, Organization and Expression
Univ. of California Davis, CA 95616	Jan Dvorak	87-CRCR-1-2278 8700503	$135,000	06-01-87 05-31-89	Chromosome Instability Induced in Wheat by Alien Chromosomes
Univ. of California Riverside, CA 92521	Eugene Nothnagel	85-CRCR-1-1607 8700213	$50,440	07-01-85 06-30-88	Membrane Dynamics in Regeneration and Temperature Sensitivity of Maize Genotypes
Florida State Univ. Tallahassee, FL 32306	George W. Bates	87-CRCR-1-2296 8700366	$150,000	08-01-87 07-31-90	Limited Gene Transfer by Protoplast Fusion
South Atlantic Area ARS, USDA Athens, GA 30613	Charles W. Stuber	86-CRCR-1-2030 8702804	$98,000	09-15-86 09-30-88	Dissection of Heterosis of Quantitative Traits Using Molecular Markers

Central Plains Area ARS, USDA Ames, IA 50010	Kendall R. Lamkey	87-CRCR-1-2370 8700738	$100,000	09-15-87 09-30-90	Effects of Transposable Elements on Genetic Variation
Purdue Res. Fdn.* West Lafayette, IN 47907	Stanton B. Gelvin	87-CRCR-1-2443* 8700080	$13,000*	09-01-87 08-31-89	Use of Anti-Sense RNA to Inhibit Gene Activity in Plants
Univ. of Kentucky Research Foundation* Lexington, KY 40506	Robert J. Shepherd	87-CRCR-1-2528* 8700704	$70,000*	09-01-87 08-31-90	Complementation among Caulimoviruses
Beltsville Area ARS, USDA Beltsville, MD 20705	Benjamin Matthews	87-CRCR-1-2284 8700602	$121,000	09-01-87 08-31-90	Cloning and Expression of Genes Involved in Amino Acid Biosynthesis
Univ. of Missouri Columbia, MO 65211	M. G. Neuffer	87-CRCR-1-2287 8700647	$186,370	09-01-87 08-31-91	Selection, Characterization of Genes Regulated by Light
North Carolina State Univ. Raleigh, NC 27695	William Thompson	85-CRCR-1-1910 8702801	$90,000	09-15-86 09-30-88	Isolation and Characterization of Genes Regulated by Light
Univ. of Nebraska Lincoln, NE 68588	William A. Compton	87-CRCR-1-2359 8700558	$72,500	08-01-87 07-31-90	Analysis of Genetic Recombination in Maize Populations Using Molecular Markers

*Both split-funded with Plant Molecular Biology research area in the amount of $168,900 and $80,000.

Agric. Expt. Stn. Univ. of Nebraska Lincoln, NE 68583	Paul E. Staswick	87-CRCR-1-2300 8700137	$50,000	07-01-87 06-30-88	Structure and Expression of Soybean Leaf Storage Protein Genes
Cornell Univ. Ithaca, NY 14853	Maureen R. Hanson	87-CRCR-1-2277 8700572	$80,690	09-01-87 08-31-88	Analysis of Proteins Associated with Cytoplasmic Male Sterility
Cornell Univ. Ithaca, NY 14853	Elizabeth D. Earle	85-CRCR-1-1608 8700594	$206,000	09-01-85 08-31-89	Analysis and Utilization of Protoplast-derived *Brassica* Lines
Cornell Univ. Ithaca, NY 14853	J. B. Nasrallah	85-CRCR-1-1600 8700590	$190,000	09-15-85 09-30-89	Molecular Analysis of S-locus Expression in Anthers of *Brassica*
Univ. of Wisconsin Madison, WI 53706	Paul H. Williams	87-CRCR-1-2335 8700646	$75,000	07-01-87 06-30-89	The Identification and Characterization of Pathogens of *Arabidopsis thaliana*

TOTAL $1,818,000

Photosynthesis

Grants in this area focus on a better understanding of photosynthesis and associated carbon metabolism. Photosynthesis is the process that crop plants use to convert solar energy into carbohydrates that plants and animals use for growth and development.

The program's aim is to cover such areas as the mechanisms of energy capture and conversion, structure, synthesis, and turnover of the photosynthetic apparatus, CO_2 fixation, photorespiration, and dark respiration. Other areas included in this program are projects on the relation of plant development to photosynthesis, including development of photosynthetic competence, translocation and partitioning of photosynthetic products; and design of whole leaf and whole plant structures best suited for photosynthetic productivity. Another area set forth for proposals is the design of new methods of genetic and cellular manipulation to improve photosynthetic efficiency in plants--including studies of the chloroplast genome, of nuclear genes regulating photosynthesis, and analysis of regulatory steps controlling both nuclear and cytoplasmic genome expression and their interactions.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: PHOTOSYNTHESIS

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of Arkansas Fayetteville, AR 72701	Danny J. Davis	87-CRCR-1-2310 8700658	$75,000	09-01-87 08-31-89	Protein-Protein Interactions in Photosynthesis
Univ. of Arizona Tucson, AZ 85721	Richard G. Jensen	87-CRCR-1-2275 8700001	$2,000	03-01-87 08-31-87	Workshop Entitled: Ribulose 1,5-Bisphosphate Carboxylase/Oxygenase-Genes, Proteins and Regulation of Activity, April 19 - April 24, 1987
Univ. of California Davis, CA 95616	Robert W. Pearcy	85-CRCR-1-1620 8700514	$90,000	07-01-85 06-30-89	Dynamic Responses of Photosynthesis to Variable Light
Univ. of California Davis, CA 95616	Mark A. Matthew	85-CRCR-1-1538 8700642	$40,000	09-01-85 08-31-88	Physiological Mechanisms of Photosynthetic Acclimation to Water Deficits
U.S. Dept. of Energy San Francisco Operations Office Oakland, CA 94612	Kenneth Sauer	85-CRCR-1-1847 8700698	$100,000	09-01-85 08-31-89	Electron Spin Echo Spectroscopy in Photosynthesis

Iowa State Univ. of Science & Technology Ames, IA 50011	Martin H. Spalding	85-CRCR-1-1591 8700569	$75,000	08-15-85 08-31-89	*Chlamydomonas* Mutants Defective in the CO_2-Concentrating Pathway
Purdue Res. Fdn. West Lafayette, IN 47907	Thomas L. Housley	87-CRCR-1-2438 8700397	$81,000	07-15-87 07-31-89	Fructan Metabolism in Wheat
Kansas State Univ. Manhattan, KS 66506	James A. Guikema	87-CRCR-1-2576 8700501	$55,000	09-15-87 09-30-88	Development of Lipid-Protein Complexes in *Anacystis* Membranes
Harvard College Cambridge, MA 02138	Lawrence Bogorad	85-CRCR-1-1584 8702808	$60,000	09-01-85 08-31-88	Genes for Photosynthesis in Corn
Univ. of Michigan Ann Arbor, MI 48109	Vincent L. Pecoraro	87-CRCR-1-2520 8700483	$50,000	08-15-87 08-31-88	Models for the Manganese Center in the Oxygen Evolving Complex of Photosystem II
Univ. of Michigan Ann Arbor, MI 48109	Robert R. Sharp	87-CRCR-1-2344 8700390	$85,000	06-01-87 05-31-89	Manganese Redox Chemistry in Photosynthetic Oxygen Evolution
Michigan State Univ. East Lansing, MI 48824	Gerald T. Babcock	87-CRCR-1-2313 8700414	$60,000	06-01-87 05-31-88	Charge Separation and Stabilizaton in Chloroplast Photosystem II

Rutgers Univ. New Brunswick, NJ 08903	Barbara A. Zilinskas	87-CRCR-1-2318 8700733	$160,000	09-01-87 08-31-90	Structure and Function of Cyanobacterial Photosynthetic Systems
Cornell Univ. Ithaca, NY 14853	Richard E. McCarty	87-CRCR-1-2442 8700562	$100,000	09-01-87 08-31-89	The Glycolate Transporter of the Chloroplast Envelope
Cornell Univ. Ithaca, NY 14853	Roger M. Spanswick	87-CRCR-1-2397 8700570	$81,000	07-15-87 07-31-89	Transport Mechanisms and the Control of Partitioning
Univ. of Rochester Rochester, NY 14627	Robert S. Knox	87-CRCR-1-2424 8700392	$80,000	07-01-87 06-30-89	Time-resolved Fluorescence Studies of Excitation Energy Flow in Chloroplasts
Rensselaer Polytech. Inst. Troy, NY 12180	Harry Roy	87-CRCR-1-2334 8700055	$85,000	06-01-87 05-31-89	Assembly of Ribulose Bisphosphate Carboxylase
Rensselaer Polytech. Inst. Troy, NY 12180	John C. Salerno	85-CRCR-1-1586 8700513	$80,000	07-01-85 06-30-89	Electron Transfer in the Cytochrome B6F Complex
Brookhaven National Lab. U.S. Dept. of Energy Upton, NY 11973	Geoffrey Hind	87-CRCR-1-2325 8700415	$90,000	09-01-87 08-31-89	The Reversible Phosphorylation of Thylakoid Membrane Proteins

Brookhaven National Lab. U.S. Dept. of Energy Upton, NY 11973	John Bennett	87-CRCR-1-2441 8700544	$120,000	09-01-87 08-31-89	Substrate Specificity of Chloroplast Protein Kinases
Agric. Expt. Stn. Oklahoma State Univ. Stillwater, OK 74078	Chang-An Yu	87-CRCR-1-2433 8700498	$80,000	07-15-87 07-31-89	Ubiquinone Binding Sites in Bacterial Photosynthetic Apparatus
Portland State Univ. Portland, OR 97207	John H. Golbeck	87-CRCR-1-2382 8700725	$165,000	06-15-87 06-30-90	Structure, Function and Organization of the Photosystem I Reaction Center Complex
Gordon Research Conferences Gordon Research Center c/o Univ. of Rhode Island Kingston, RI 02881	A. M. Cruickshank	87-CRCR-1-2305 8700362	$6,000	05-01-87 12-31-87	Travel Support for Photosynthesis Conference
Texas Tech Univ. Lubbock, TX 79409	David B. Knaff	87-CRCR-1-2333 8700050	$60,000	09-01-87 08-31-88	Protein: Protein Complexes in Photosynthetic Electron Transfer Reactions
Univ. of Wisconsin Madison, WI 53706	Marion H. O'Leary	87-CRCR-1-2319 8700088	$110,000	06-01-87 05-31-89	Mechanisms of Action of Phosphoenolpyruvate Carboxylase

Univ. of Wisconsin Madison, WI 53706	Stanley H. Duke	87-CRCR-1-2324 8700497	$70,000	09-15-87 09-30-89	Chloroplast Starch Degradation

TOTAL $2,060,000

SOYBEAN RESEARCH

The overall goal of this program area is to support long-term, basic biological research on soybeans that can generate new ideas, new knowledge, and innovative technologies which ultimately will contribute to increased productivity and quality of the soybean crop. This program encourages innovative studies on: (1) physiology, genetics, and biochemistry of soybeans, (2) the mechanisms of interactions between soybean and insect as well as microbial pests, and (3) the Rhizobium-soybean symbiosis.

Proposals on soybean research were submitted to appropriate plant science programs for review according to the scientific content of the proposal. The grants listed below were selected from those proposals deemed highly meritorious by appropriate review panels.

Additional research grants using soybean as an experimental system can be found in other plant science and biotechnology programs.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: SOYBEAN RESEARCH

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Louisiana State Univ. Agric. Ctr. Baton Rouge, LA 70894	Peter W. Jordan	87-CRCR-1-2346 8700435	$100,000	07-01-87 06-30-90	Light Partitioning in a Soybean/Weed Community: Quantifying Resource Preemption
Univ. of Minnesota St. Paul, MN 55104	Mark L. Brenner	87-CRCR-1-2467 8700580	$80,000	08-01-87 07-31-89	Role of Abscisic Acid on Sucrose Accumulation by Soybean Seeds
Univ. of Missouri* Columbia, MO 65211	Dale G. Blevins	87-CRCR-1-2466* 8701617	$120,664*	08-01-87 07-31-89	Ureide Metabolism in Nodulated Soybeans
Univ. of Dayton Dayton, OH 45469	Donald R. Geiger	87-CRCR-1-2486 8701078	$68,000	09-15-87 09-30-89	Carbon Partitioning of Two Soybean Cultivars under Non-Stress and Water Stress

*Split-funded with Nitrogen Fixation for the amount of $5,000.

Univ. of Wisconsin Madison, WI 53706	Douglas D. Buhler	87-CRCR-1-2367 8700579	$98,700	07-01-87 06-30-89	Investigation of a Mechanism of Xenobiotic Detoxication by Plants

TOTAL $467,364

BIOTECHNOLOGY

It is widely acknowledged that biotechnological research offers direct access to new, potentially valuable high technology opportunities for agriculture and food production. Recent discoveries in molecular genetics and their successful applications show that "high technology in biology" is applicable to agriculture and food and they contribute significantly to "the molecular revolution" that is basic to many of our industries. The new biotechnological research capabilities -- particularly those that build on advances in molecular biology -- have particular advantages for agriculture. They provide a new basis for changing plant and animal productivity and performance on the basis of the directed modification of specified genes and gene systems.

This new capability offers exceptional promise, but it cannot be effective unless it is closely integrated with basic science aimed at establishing a thorough understanding of fundamental biological processes in animals, plants, and associated microorganisms that may provide the basic scientific knowledge needed for the development and application of the new biotechnological research capability to agriculture and food.

Three research areas are emphasized: (1) molecular biology, (2) molecular and cellular mechanisms of growth and development, and (3) genetic and molecular mechanisms controlling responses to environmental and biological stress.

disciplines such as genetics, biochemistry, physiology, taxonomy, ecology, and key agriculture disciplines such as plant and animal breeding, agronomy, horticulture, plant pathology, and entomology. In recognizing these needs, the overall goal of the Biotechnology Program is to support research

Biotechnology - Plant Molecular Biology

The primary objective of the sub-area, plant molecular biology, is to increase our understanding of the structure, function, regulation, and expression of genes of plant, the associated microbial systems, and the plant associated insects. This program area emphasizes the following categories of research: (1) identification, isolation, and characterization of genes and gene products, (2) relationships between gene structure and function, (3) regulatory mechanisms of gene expression, (4) interactions between nuclear and organellar genes, and between extrachromosomal and chromosomal genes, (5) mechanisms of gene recombination and transposition, (6) molecular basis of chromosomal replication, and (7) mechanisms of interaction with beneficial or deleterious microorganisms, and (8) mechanisms of interaction with benefical or deleterious insects.

The proposals under the Biotechnology/Plant Molecular Biology area were submitted to one of the five plant science review panels according to the biological problem being addressed. The grants awarded in this program area are listed by review panels.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOTECHNOLOGY - PLANT MOLECULAR BIOLOGY/GENETIC MECHANISMS

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California Davis, CA 95616	Clarence I. Kado	87-CRCR-1-2282 8700314	$200,000	07-01-87 06-30-90	Analysis of the Ros Gene
Univ. of California Los Angeles, CA 90024	Robert B. Goldberg	86-CRCR-1-2022 8702763	$105,000	07-01-86 06-30-88	Regulation of Soybean Seed Protein Gene Expression
Univ. of Idaho Moscow, ID 83843	David J. Oliver	87-CRCR-1-2286 8700320	$200,000	07-01-87 06-30-90	Light-Dependent Expression of Glycine Decarboxylase in Pea Leaf Mitochondria
Purdue Research* Foundation West Lafayette, IN 47907	Stanton B. Gelvin	87-CRCR-1-2443* 8700080	$168,900*	09-01-87 08-31-89	Use of Anti-Sense RNA to Inhibit Gene Activity in Plants
Univ. of Kentucky* Research Foundation Lexington, KY 40506	Robert J. Shepherd	87-CRCR-1-2528* 8700704	$80,000*	09-01-87 08-31-90	Complementation among Caulimoviruses

*Split-funded with Genetic Mechanisms research area.

Univ. of Kentucky Lexington, KY 40506	Arthur G. Hunt	85-CRCR-1-1810 8700691	$70,000	09-01-85 08-31-89	Gene Expression in Plants: A Study of Polyadenylation in Plants
Fedn. of American Societies for Expt. Biol. Rockville, MD 20014	Robert W. Krauss	87-CRCR-1-2280 8700004	$4,000	06-01-87 11-30-87	FASEB Summer Research Conference on Plant Gene Expression
Michigan State Univ. East Lansing, MI 48824	Kenneth C. Sink	87-CRCR-1-2290 8700333	$200,000	09-15-87 09-30-90	T-DNA: A Novel Marker System for Asymmetric Gene Transfer by Cell Fusion
Univ. of Minnesota St. Paul, MN 55104	Carolyn D. Silflow	85-CRCR-1-1754 8700660	$200,000	09-15-85 09-30-89	Tubulin Genes of Plants
Washington Univ. St. Louis, MO 63130	John C. Rogers	87-CRCR-1-2299 8700423	$150,000	08-01-87 07-31-89	Mechanisms Directing Hormonal and Developmental Regulation of Gene Expression in Barley
Univ. of New Hampshire Durham, NH 03824	Anita S. Klein	87-CRCR-1-2425 8700719	$185,000	09-15-87 09-30-90	Tissue-specific Gene Regulation in Maize

New Mexico State Univ. Las Cruces, NM 88003	Mary A. O'Connell	87-CRCR-1-2291 8700329	$187,000	09-01-87 08-31-90	Construction and Characterization of Somatic Hybrids and Cybrids of Tomato
Cold Spring Harbor Laboratory Cold Spring Harbor, NY 11724	John E. Boynton	87-CRCR-1-2285 8700084	$12,000	07-01-87 06-30-88	Molecular Biology of Mitochondria and Chloroplasts Conference, August 25-30, 1987
Ohio State Univ. Res. Fdn. Columbus, OH 43212	David M. Bisaro	87-CRCR-1-2541 8702812	$78,100	09-01-87 08-31-88	Molecular Mechanisms of Geminivirus Replication
Washington State Univ. Pullman, WA 99164-6420	Andris Kleinhofs	86-CRCR-1-2004 8702475	$5,000	07-01-86 06-30-89	Molecular and Genetic Studies of Nitrate Reductase in Barley

TOTAL $1,845,000

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOTECHNOLOGY - PLANT MOLECULAR BIOLOGY/PHOTOSYNTHESIS

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Colorado State Univ. Fort Collins, CO 80523	Craig C. Schenck	87-CRCR-1-2358 8700685	$90,000	08-15-87 08-31-89	Bacterial Reaction Centers
Univ. of Georgia Res. Fdn. Athens, GA 30602	Gregory W. Schmidt	87-CRCR-1-2329 8700521	$100,000	06-01-87 05-31-89	Pigment-Protein Interactions in Light-Harvesting Complexes
Univ. of Georgia Res. Fdn. Athens, GA 30602	Joseph H. Bouton	87-CRCR-1-2408 8700394	$90,000	07-15-87 07-31-89	Transfer and Expression of C_4 Photosynthetic Characteristics in Flaveria
Univ. of Chicago Chicago, IL 60637	Robert Haselkorn	85-CRCR-1-1565 8701133	$48,900	07-01-85 12-31-87	Molecular Genetic Analysis of the Photosynthetic Apparatus in Cyanobacteria
Univ. of Health Sciences The Chicago Medical School North Chicago, IL 60064	Frank Marcus	87-CRCR-1-2395 8700345	$50,000	09-01-87 08-31-88	Light-regulated Enzymes of Photosynthetic Carbon Assimilation

Midwest Area, ARS, USDA Peoria, IL 61604	Donald R. Ort	87-CRCR-1-2381 8700375	$150,000	09-01-87 08-31-90	The Physiological and Biochemical Basis for Environmental Limitations on Photosynthesis
Massachusetts Inst. of Technology Cambridge, MA 02139	Douglas C. Youvan	87-CRCR-1-2328 8700295	$100,000	06-01-87 05-31-89	Mutational Analysis of Photosynthetic Apparatus Biogenesis
Rutgers Univ. New Brunswick, NJ 08903	Carl A. Price	87-CRCR-1-2393 8700605	$91,100	07-01-87 06-30-89	Translational Regulation in Chloroplasts
Univ. of Texas Austin, TX 78712	F. Robert Tabita	87-CRCR-1-2330 8700090	$130,000	09-01-87 08-31-89	Bacterial Genes Coding for Plant Ribulose Bisphosphate Carboxylase
		TOTAL	$850,000		

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOTECHNOLOGY - PLANT MOLECULAR BIOLOGY/NITROGEN FIXATION

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California Davis, CA 95616	John C. Meeks	87-CRCR-1-2446 8701623	$105,000	08-01-87 07-31-89	Physiology and Genetics of Nitrogen Fixation by Symbiotic Cyanobacteria
Midwest Area ARS, USDA Peoria, IL 61604	Carroll P. Vance	87-CRCR-1-2588 8701336	$96,000	09-01-87 08-31-89	Regulation of Plant-Bacterial Interactions During Legume Root Nodule Formation
Kansas State Univ. Manhattan, KS 66506	L. Clark Davis	87-CRCR-1-2447 8701292	$72,500	07-15-87 07-31-89	Mutations Affecting the Fe Protein of *Klebsiella pneumoniae* Nitrogenase
New Mexico State Univ. Las Cruces, NM 88003	C. S.-Gopalan	87-CRCR-1-2484 8700404	$94,000	09-01-87 08-31-89	Regulation of Host Gene Expression during Root Nodule Development in Soybean
Univ. of Texas Austin, TX 78712	Fred R. Tabita	87-CRCR-1-2427 8701340	$105,000	08-01-87 07-31-89	Recovery of Nitrogenase from Oxygen Inactivation

Virginia Polytechnic Inst. & State Univ. Blacksburg, VA 24061	Dennis R. Dean	87-CRCR-1-2459 8701330	$55,000	09-01-87 08-31-88	Analysis of Azotobacter vinelandii N-fixation-specific Genes and Their Products
Univ. of Wisconsin* Madison, WI 53706	Gary P. Roberts	87-CRCR-1-2561* 8701402	$72,378*	09-01-87 08-31-89	Analysis of a Regulatory System for Nitrogenase in Rhodospirillum rubrum
Marquette Univ. Milwaukee, WI 53233	Kenneth D. Noel	87-CRCR-1-2409 8701606	$105,000	09-01-87 08-31-89	Rhizobium lipopolysaccharide: Genetics and Role in Nodule Development

TOTAL $704,878

*Split-funded with Nitrogen Fixation research area for the amount of $37,622.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOTECHNOLOGY - RESPONSE TO BIOLOGICAL STRESS (ENTOMOLOGY)

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California Berkeley, CA 94720	Loy E. Volkman	87-CRCR-1-2416 8700674	$50,000	08-15-87 08-31-88	Role of Microfilaments in Autographa californica NPV Assembly
Univ. of Florida Gainesville, FL 32611	Harlan G. Hall	86-CRCR-1-2101 8700926	$100,000	07-15-86 07-31-89	Genetic Characterization of Honeybees through DNA Analysis
Iowa State Univ. of Science & Technology Ames, IA 50011	R. W. Thornburg	87-CRCR-1-2518 8701110	$111,000	09-15-87 09-30-89	Identification of Regulatory Segments in a Wound-inducible Inhibitor II Gene
North Carolina State Univ. Raleigh, NC 27695	A. C. Triantaphyllou	87-CRCR-1-2379 8700338	$120,000	08-01-87 07-31-89	Genetics of Parasitism of the Soybean Cyst Nematode
Rutgers Univ. New Brunswick, NJ 08903	Randy Gaugler	87-CRCR-1-2298 8700306	$90,000	07-01-87 06-30-89	Genetic Improvement and Analysis of the Entomoparasitic Nematode, Steinernema Feltiae

Oregon State Univ. Corvallis, OR 97331	George F. Rohrmann	87-CRCR-1-2380 8700401	$50,000	09-01-87 08-31-88	Identification and Characterization of Baculovirus Gene Translation Products
Univ. of Oregon Eugene, OR 97403	John Postlethwait	87-CRCR-1-2570 8700689	$50,000	09-01-87 08-31-88	Molecular Genetics of Immunity in Fruit Flies
Pennsylvania State Univ. University Park, PA 16802	Ralph O. Mumma	87-CRCR-1-2423 8700357	$90,000	07-01-87 06-30-89	Molecular, Morphological and Genetic Basis of Plant Insect Resistance
Texas A&M Res. Fdn. College Station, TX 77843	Max D. Summers	87-CRCR-1-2392 8700453	$160,000	09-15-87 09-30-90	Integration of *Campoletis sonorensis* Virus DNA in Parasitoid Wasp Cellular DNA
Univ. of Vermont & State Agric. College Burlington, VT 05405	George M. Happ	87-CRCR-1-2406 8700171	$50,000	08-01-87 07-31-88	Control of Reproduction in Male Insects
Univ. of Wisconsin Madison, WI 53706	Nancy E. Beckage	87-CRCR-1-2407 8700241	$100,000	09-01-87 08-31-89	Molecular Host-Parasite Interactions in the Tobacco Hornworm

TOTAL $971,000

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOTECHNOLOGY - RESPONSE TO BIOLOGICAL STRESS (PLANT-PATH)

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California Berkeley, CA 94720	Thomas J. Morris	87-CRCR-1-2551 8700551	$200,000	09-01-87 08-31-89	Molecular Structure and Function of Virus Genomes
Univ. of California Berkeley, CA 94720	Andrew O. Jackson	87-CRCR-1-2556 8700566	$150,000	09-01-87 08-31-89	Interaction of a Satellite Virus With its Helper Virus
Univ. of California Davis, CA 95616	George Bruening	87-CRCR-1-2339 8700588	$100,000	09-15-87 09-30-89	Antiviral Action of Satellite RNA
Univ. of California Davis, CA 95616	Tsune Kosuge	85-CRCR-1-1697 8702581	$67,000	07-01-85 06-30-88	Control of Virulence in *Pseudomonas savastanoi*
Univ. of California Davis, CA 95616	R. W. Michelmore	87-CRCR-1-2458 8700726	$150,000	07-15-87 07-31-89	Transformation of *Bremia lactucae* and Cloning of Avirulence Genes

Univ. of California Riverside, CA 92521	William O. Dawson	87-CRCR-1-2450 8700257	$200,000	07-15-87 07-31-89	Sequence-Function Relationship of the TMV-Host Interaction
Univ. of California Davis, CA 95616	John J. Harada	86-CRCR-1-2172 8702769	$50,000	09-15-86 09-30-88	Molecular Aspects of Disease in Higher Plants
Salk Inst. for Biological Studies San Diego, CA 92138	Christopher J. Lamb	87-CRCR-1-2350 8700690	$100,000	07-01-87 06-30-89	Gene Activation Mechanisms in the Initiation of Plant Defense Responses
Univ. of Kentucky Res. Fdn. Lexington, KY 40506	C. L. Schardl	87-CRCR-1-2391 8700711	$100,000	07-01-87 06-30-89	Molecular Studies of Phytoalexin Detoxification and Virulence in *Fusarium*
Washington Univ. St. Louis, MO 63130	Roger N. Beachy	86-CRCR-1-2262 8702819	$50,000	09-15-86 09-30-88	Site-Specific Modifications of TMV-Coat Protein and Its Cross-Protection
State Univ. of New York Albany, NY 12201	Jeremy A. Bruenn	87-CRCR-1-2368 8700041	$100,000	09-01-87 08-31-89	Cloning and Expression of the *Ustilago maydis* Virus Toxin Gene
Cornell Univ. Ithaca, NY 14853	O. C. Yoder	87-CRCR-1-2557 8700614	$50,000	09-15-87 09-30-88	Molecular Analysis of the Tox 1 Gene of *Cochliobolus heterostrophus*

Cornell Univ. Ithaca, NY 14853	Hans D. VanEtten	87-CRCR-1-2510 8700517	$53,000	08-01-87 07-31-88	Do Pathogens of the Same Host Require Common Pathogenicity Traits?
Rockefeller Univ. New York, NY 10021	Hugh D. Robertson	87-CRCR-1-2340 8700697	$100,000	07-01-87 06-30-89	Viroid Multiplication and Disease Induction
Clemson Univ. Clemson, SC 29634	H. D. Skipper	87-CRCR-1-2341 8700606	$50,000	07-01-87 06-30-88	Loss of Herbicidal Efficacy by Microbial-mediated Processes
Univ. of Wisconsin Madison, WI 53706	Albert H. Ellingboe	87-CRCR-1-2451 8700291	$100,000	07-15-87 07-31-89	Molecular Tagging of the Rp 1f Gene in Maize

TOTAL $1,620,000

Biotechnology - Response to Physical Stress on Plants

This program supports research on the various physico-chemical factors (such as heat, cold, drought, etc.) which prevent the expression of the full genetic potential of a plant. The major goals are to understand the molecular basis for the response to the various stresses and to identify which genetic systems causing these responses can be manipulated by biotechnology techniques.

The program emphasizes: the identification, transfer, and expression of genes involved in the stress response or are likely to affect performance under stress; fundamental mechanisms of the stress response including injury, tolerance and avoidance of stress at the molecular, cellular, and organismal level; mechanisms of the coordination of organismal response to stress; and laboratory and field investigations leading to an understanding of the causes, consequences, and avoidance of stress.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOTECHNOLOGY - RESPONSE TO PHYSICAL STRESS (PLANTS)

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of Arizona Tucson, AZ 85721	Hans J. Bohnert	87-CRCR-1-2475 8701148	$222,000	08-01-87 07-31-90	Regulation of Gene Expression During CAM-Induction
Univ. of California Davis, CA 95616	Andre E. Lauchli	87-CRCR-1-2462 8700985	$110,000	08-01-87 07-31-89	Disturbed Ion Compartmentation in Leaf Meristems: Site Inhibition by Salt
Univ. of Georgia Res. Fdn. Athens, GA 30602	Judith N. Strommer	87-CRCR-1-2500 8701000	$96,000	08-01-87 07-31-89	Mutagenic Analysis of Anaerobic Induction in Plants
Univ. of Illinois Champaign, IL 61820	John M. Cheeseman	87-CRCR-1-2501 8701120	$125,000	09-01-87 08-31-89	Potassium Circulation and Salinity Responses in Sunflower
Purdue Res. Fdn West Layfayette, IN 47907	L. N. Csonka	87-CRCR-1-2495 8701195	$101,000	09-01-87 08-31-89	Analysis of Proline Biosynthesis and Its Role in Osmoregulation

Univ. of Maine Orono, ME 04469	Michael E. Vayda	87-CRCR-1-2580 8700996	$90,000	09-01-87 08-31-89	Molecular Response of Potato Tubers to Anaerobic Stress
Michigan State Univ. East Lansing, MI 48824	C. R. Somerville	87-CRCR-1-2507 8700994	$86,000	09-01-87 08-31-89	The Molecular Basis for Chilling Sensitivity in a Mutant of *Arabidopsis*
Michigan State Univ. East Lansing, MI 48824	Andrew D. Hanson	87-CRCR-1-2460 8700720	$67,000	07-15-87 07-31-88	Molecular Basis and Function of Stress-Induced Betaine Synthesis in Plants
Univ. of Minnesota St. Paul, MN 55104	John V. Carter	85-CRCR-1-1666 8700995	$126,000	09-15-85 09-30-89	Role of Microtubules in Freezing Injury and Cold Acclimation in Plants
Univ. of Missouri Columbia, MO 65211	Robert E. Sharp	87-CRCR-1-2492 8701098	$118,000	08-01-87 07-31-89	Mechanisms Determining Root and Shoot Growth in Water Stressed Plants
Univ. of Nebraska Lincoln, NE 68588	Philip M. Kelley	87-CRCR-1-2509 8701124	$108,000	08-01-87 07-31-89	The Regulation of the Anaerobic Genes of Maize
Univ. of Nevada Reno, NV 89557	Jeffrey R. Seemann	87-CRCR-1-2470 8701020	$205,000	09-01-87 08-31-90	Environmental Stress Effects on Photosynthetic Carbon Metabolism
Ohio State Univ. Res. Fdn. Columbus, OH 43210-1194	Robert A. Kennedy	87-CRCR-1-2508 8701087	$169,000	08-01-87 07-31-89	Anaerobic Metabolism in *Echinochloa crus-galli* (Barnyard Grass) Seeds

Univ. of Washington Seattle, WA 98195	Barbara Smit-Spinks	87-CRCR-1-2493 8701018	$86,000	09-01-87 08-31-89	Cellular Basis for Limitations of Leaf Growth by Root Stress
Univ. of Wisconsin Madison, WI 53706	Jiwan P. Palta	85-CRCR-1-1673 8701044	$84,000	09-01-85 08-31-89	Mechanism of Freezing Stress Resistance and Cold Acclimation in Plants

TOTAL $1,793,000

Biotechnology - Plant Growth and Development

The lack of information about the basic cellular and molecular processes involved in plant growth and development is considered a serious limiting step for realizing the full potential of biotechnology in agriculture. The goal of this program is to support fundamental research designed to fill in this gap in our knowledge. The program encourages the use of emerging experimental techniques and emphasizes: (1) cellular and molecular mechanisms controlling plant growth and development and (2) metabolic processes related to growth and development.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOTECHNOLOGY - PLANT GROWTH & DEVELOPMENT

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California Berkeley, CA 94720	Robert L. Fischer	87-CRCR-1-2526 8701297	$102,590	08-15-87 08-31-89	Polygalacturonase: Enzyme Function and Gene Regulation During Fruit Ripening
Univ. of California Berkeley, CA 94720	Bob B. Buchanan	85-CRCR-1-1664 8701295	$110,000	08-01-85 07-31-89	Developmental Studies on Thioredoxin Systems in Plants
Univ. of California Davis, CA 95616	Alan B. Bennett	87-CRCR-1-2525 8702805	$97,410	08-15-87 08-31-89	Polygalacturonase: Enzyme Function and Gene Regulation During Fruit Ripening
Univ. of California Davis, CA 95616	Roy M. Sachs	87-CRCR-1-2420 8701080	$170,000	09-01-87 08-31-90	Molecular Analysis of the Photoperiodic Control of Flower Induction
Univ. of California Davis, CA 95616	Shang Fa Yang	87-CRCR-1-2419 8701101	$110,000	08-01-87 07-31-89	In-Vivo Affinity Labeling and Characterization of the Ethylene Receptor

San Jose State Univ. Foundation San Jose, CA 95192-0139	Daniel B. Walker	87-CRCR-1-2455 8701054	$120,000	08-01-87 07-31-89	Mechanism of Plant Epidermal Development
Yale Univ. New Haven, CT 06520	Timothy M. Nelson	87-CRCR-1-2411 8700973	$126,000	07-15-87 07-31-89	Analysis of Genes Determining Sex of Maize Inflorescences
Yale Univ. New Haven, CT 06520	Ian M. Sussex	87-CRCR-1-2435 8701008	$230,000	09-15-87 09-30-90	Molecular and Cellular Analysis of Branch Initiation in Pea
Univ. of Florida Gainesville, FL 32611	G. A. Moore	85-CRCR-1-1623 8701127	$120,000	08-01-85 07-31-89	Genetic Transformation of *Citrus* to Facilitate Hybrid Production
Univ. of South Florida Tampa, FL 33620	Mary J. Saunders	87-CRCR-1-2399 8701001	$124,000	09-01-87 08-31-89	Spatial and Temporal Control of Plant Cell Division
Iowa State Univ. of Science & Technology Ames, IA 50011	R. C. Coolbaugh	87-CRCR-1-2400 8701069	$70,000	07-15-87 07-31-89	Abscisic Acid Biosynthesis in Cell-Free Extracts from *Cercospora rosicola*
Univ. of Chicago Chicago, IL 60637	Laurens J. Mets	87-CRCR-1-2351 8701301	$90,000	06-15-87 06-30-88	Genetic Control of Cellular Differentiation in Leaves of a C_4 Plant

Univ. of Chicago Chicago, IL 60637	Gayle Lamppa	87-CRCR-1-2469 8701037	$150,000	09-01-87 08-31-89	The Role of Precursor Processing Enzymes in Chloroplast Biogenesis
Purdue Res. Fdn. West Lafayette, IN 47907	Brian A. Larkins	87-CRCR-1-2356 8701176	$86,000	09-01-87 08-31-88	Analysis of Seed Globulin Gene Expression in Oats and Other Cereals
Beltsville Agric. Res. Ctr. ARS, USDA Beltsville, MD 20705	Jerry D. Cohen	85-CRCR-1-1718 8701057	$112,000	08-01-85 09-30-89	Auxin-Containing Peptides from Phaseolus Seeds
American Society for Cell Biology Bethesda, MD 20814	R. D. Rodewald	87-CRCR-1-2347 8702745	$3,000	06-01-87 12-31-87	Acidic Intracellular Compartments in Plant and Animal Cells
Univ. of Michigan Ann Arbor, MI 48109	Eugene E. Dekker	87-CRCR-1-2563 8701109	$117,000	09-01-87 08-31-89	Enzymes of 4-Methylene Glutamic Acid Metabolism in Germinating Legumes
Carleton College Northfield, MN 55057	Susan R. Singer	87-CRCR-1-2554 8701294	$145,000	09-01-87 08-31-90	Acquisition of Competence for Floral Determination
Univ. of Minnesota St. Paul, MN 55104	Susan M. Wick	87-CRCR-1-2530 8701052	$125,000	09-01-87 08-31-89	Location, Behavior and Composition of Microtubule Initiation Sites in Plants

Univ. of Minnesota St. Paul, MN 55104	B. G. Gengenbach	87-CRCR-1-2364 8701093	$116,000	07-01-87 06-30-89	Amyloplast Differentiation in Developing Maize Endosperm
St. Mary's College Winona, MN 55987	Richard V. Kowles	87-CRCR-1-2365 8701067	$90,000	09-01-87 05-31-90	Temporal and Positional Gene Expression in the Development of Maize Endosperm
Univ. of North Carolina Chapel Hill, NC 27514	Alan M. Jones	87-CRCR-1-2402 8701028	$210,000	07-01-87 06-30-90	Phytochrome-Regulated Growth in Maize
Rutgers Univ. New Brunswick, NJ 08903	Bruce P. Wasserman	87-CRCR-1-2414 8700961	$149,000	09-15-87 09-30-89	Molecular Aspects of B-Glucan Biosynthesis in Higher Plants
Cornell Univ. Ithaca, NY 14853	D. J. Paolillo, Jr.	87-CRCR-1-2401 8701077	$80,000	08-01-87 07-31-89	An Evaluation of GA Action on Cell Elongation Using Norin 10 Dwarfing Genes
Cornell Univ. Ithaca, NY 14853	Martha A. Mutschler	87-CRCR-1-2436 8701115	$100,000	09-01-87 08-31-89	Molecular Analysis of the Effects of the alc Mutant in Tomato Ripening
City Univ. of New York Res. Fdn. Baruch College New York, NY 10010	Edward B. Tucker	87-CRCR-1-2444 8701122	$100,000	07-15-87 07-31-89	Regulation of Plant Cell-to-Cell Communication

Case Western Reserve Univ. Cleveland, OH 44106	Christopher D. Town	87-CRCR-1-2559 8701103	$106,000	09-01-87 08-31-89	Auxin Metabolism in Arabidopsis: A Genetic Approach
Oregon State Univ. Corvallis, OR 97331	Carol J. Rivin	85-CRCR-1-1644 8701117	$125,000	09-15-85 09-30-89	Molecular Analysis of Embryo Development in Wildtype and Vp Mutants in Maize
Pennsylvania State Univ. University Park, PA 16802	Jack C. Shannon	87-CRCR-1-2279 8701100	$3,000	05-01-87 10-31-87	Financial Support for Second Pennsylvania State University Symposium in Plant Physiology
Gordon Research Conferences Gordon Research Center c/o Univ. of Rhode Island Kingston, RI 02881	Keith A. Walker	87-CRCR-1-2349 8701033	$6,000	06-01-87 09-30-87	Plant Cell and Tissue Culture (Conference)
Brown Univ. Providence, RI 02912	Annette W. Coleman	87-CRCR-1-2534 8701086	$64,000	09-01-87 08-31-89	Detection and Analysis of Organelle DNA Changes During Pollen Development
Univ. of Tennessee Knoxville, TN 37996	Donald K. Dougall	87-CRCR-1-2535 8700972	$60,290	09-01-87 08-31-88	Metabolic Basis of Reversible Changes in Chemical Production by Cells

Univ. of Texas Austin, TX 78713	John W. La Claire	87-CRCR-1-2545 8701023	$96,000	09-01-87 08-31-89	Organization, Function and Dynamics of the Plant Cytoskeleton
Univ. of Wisconsin Madison, WI 53706	Michael R. Sussman	87-CRCR-1-2357 8701024	$130,000	07-01-87 06-30-90	Calcium-Activated Plasma Membrane Protein Kinase
		TOTAL	$3,643,290		

Biotechnology - Animal Molecular Biology

The objective of the animal molecular biology program is to increase our knowledge and understanding of the structure, function, regulation and expression of genomes of animal, microbial and viral origin. This includes but is not limited to: the molecular biology of genes of cellular, organellar or animal origin; gene transfer and germline integration of exogenous genes; the molecular biology of replication and gene expression of bacteria, parasites, viruses and other infectious or non-infectious agents; structural immunology and immunogenetics; molecular genetics; and molecular endocrinology. Priorities are given to those studies that will yield fundamental information which may ultimately aid in improving the biological efficiency and disease resistance in domestic animals.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOTECHNOLOGY - ANIMAL MOLECULAR BIOLOGY

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
La Jolla Biological Laboratories San Diego, CA 92138-9216	Thomas R. Gingeras	37-CRCR-1-2560 8701403	$135,000	09-01-87 08-31-89	Establishment of DNA Virus-resistant Bovine Cell Lines
Univ. of California San Francisco, CA 94143	Charles P. Ordahl	87-CRCR-1-2404 8701862	$260,000	09-15-87 09-30-90	Retroviral Transduction of Muscle-Specific Promoter Cassettes in Chick Embryos
Stanford Univ. Stanford, CA 94305	Gary K. Schoolnik	87-CRCR-1-2403 8701644	$140,000	09-01-87 08-31-88	Moraxella bovis Pili. Molecular and Genetic Studies
Midwest Area USDA, ARS Peoria, IL 61604	Robert F. Silva	85-CRCR-1-1709 8701532	$85,000	09-01-85 08-31-89	Genetic Engineering of Avian Herpesviruses: Potential Use as Live Recombinant DNA Vaccines
Univ. of Illinois Urbana, IL 61801	Harris A. Lewin	87-CRCR-1-2546 8701469	$110,000	09-01-87 08-31-89	Molecular Analysis of the Bovine Major Histocompatibility Complex

Indiana Univ. Foundation Bloomington, IN 47402	Chao-Hung Lee	87-CRCR-1-2456 8701861	$182,000	09-01-87 08-31-90	*Escherichia coli* Enterotoxin STII
Amherst College Amherst, MA 01002	Richard A. Goldsby	87-CRCR-1-2432 8701346	$180,000	08-01-87 07-31-90	Immunomodulation by Monoclonal Anti-Ids to Pathogen-reactive Mono- and Polyclonal Ids
Bionetics Research, Inc. Kensington, MD 20895	Stephen H. Hughes	87-CRCR-1-2584 8701863	$95,000	09-15-87 09-30-90	Design and Testing of Retroviral Vectors for the Creation of Transgenic Poultry
Michigan State Univ. East Lansing, MI 48824	Donald W. Salter	87-CRCR-1-2445 8701536	$253,000	09-15-87 09-30-90	Gene Insertion into the Avian Germ Line Using Retroviral Vectors
Northern States Area, ARS, USDA Minneapolis, MN 55401	Eugene J. Smith	87-CRCR-1-2389 8701483	$135,000	09-01-87 08-31-90	Analysis of the Sex-linked Endogenous Virus-slow Feathering Complex of Chickens
Molecular Genetics, Inc. Minnetonka, MN 55343	Marc S. Collett	87-CRCR-1-2555 8700979	$75,000	09-15-87 09-30-88	Immunogenicity of Isolated Bovine Viral Diarrhea Virus Proteins
Univ. of Missouri Columbia, MO 65211	Kim S. Wise	87-CRCR-1-2564 8701663	$200,000	09-15-87 09-30-90	Immunologic and Molecular Genetic Determinants in Mycoplasmal Pneumonia of Swine

North Carolina State Univ. Raleigh, NC 27695-7003	T. R. Klaenhammer	87-CRCR-1-2547 8701584	$190,000	09-01-87 08-31-90	Molecular Characterization of pTR2030-directed Phage Resistance in Lactic Streptococci
Agric. Expt. Station Univ. of Nebraska Lincoln, NE 68583-0704	Daniel L. Rock	87-CRCR-1-2415 8701328	$120,000	09-01-87 08-31-89	Molecular Characterization of Pseudorabies Virus (PRV) Latency-Related Genes
Univ. of Nevada Reno, NV 89557	Stuart T. Nichol	87-CRCR-1-2428 8701487	$205,000	09-01-87 08-31-90	A Molecular Approach to Vesicular Stomatitis Epizootiology, Disease Diagnosis & Control
Cornell Univ. Ithaca, NY 14853	Carl A. Batt	87-CRCR-1-2405 8701467	$124,000	08-01-87 07-31-89	Inhibition of Streptococcus lactis Bacteriophage by Antisense mRNA
Cornell Univ. Ithaca, NY 14853	Gary M. Dunny	87-CRCR-1-2421 8701486	$170,000	09-01-87 08-31-90	Biochemistry and Genetics of Bacteriophage Resistance in Dairy Streptococci
Univ. of Cincinnati Cincinnati, OH 45221	Jeffrey Robbins	85-CRCR-1-1729 8701209	$200,000	09-01-85 08-31-89	Structure and Function of the Major Muscle Protein, Myosin, in Poultry

Gordon Research Conferences Gordon Research Center c/o Univ. of Rhode Island Kingston, RI 02881-0801	Barry G. Hall	87-CRCR-1-2390 8700070	$4,000	08-01-87 07-31-88	Population Biology of Microorganisms and Their Accessory Elements
Texas A&M Res. Fdn. College Station, TX 77843	James E. Womack	87-CRCR-1-2437 8701679	$142,000	09-01-87 08-31-90	Molecular and Somatic Cell Genetics: Mapping the Cattle Genome
Univ. of Washington Seattle, WA 98195	Stephen L. Moseley	87-CRCR-1-2426 8701561	$220,000	09-01-87 09-30-90	Genetic Organization and Function in the Production of F41 Bacterial Adhesin
Univ. of Wisconsin Madison WI 53706	G. J. Letchworth, III	87-CRCR-1-2548 8701476	$100,000	09-01-87 08-31-89	Antibody Inhibition of Viral Protein Interaction with Mucosal Epithelial Cells
Univ. of Wisconsin Madison, WI 53706	Richard F. Marsh	87-CRCR-1-2457 8701643	$200,000	09-01-87 08-31-90	Characterization of Scrapie Agent Nucleic Acid

TOTAL $3,525,000

Biotechnology - Animal Growth and Development

Research in animal growth and development contributes to a basic understanding of potential problems related to suboptimal growth and development in animals of domestic agricultural significance. The program emphasizes molecular and cellular biological approaches in a number of research areas including but not limited to: growth hormones, growth factors and other macromolecules which regulate muscle and skeletal growth; the transfer of exogenous genes to the germline of domestic animals and their subsequent expression, mammary gland biogenesis and development; the regulation of gene expression as it relates to developmental processes; the role of hormones and immune factors in mediating immunologic and physiologic stress; and the developmental consequences of embryo transfer. Special attention is given to innovative projects of "high risk."

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOTECHNOLOGY - ANIMAL GROWTH & DEVELOPMENT

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of Alabama Birmingham, AL 35294	Johanna A. Griffin	87-CRCR-1-2317 8700064	$300,000	08-01-87 07-31-90	Molecular Genetic Regulation of the Immune Response in Chickens
Univ. of Arizona Tucson, AZ 85721	Darrel E. Goll	87-CRCR-1-2283 8700403	$100,000	09-01-87 08-31-88	Proteases Responsible for Muscle Protein Degradation and Their Role in Growth
Univ. of California Davis, CA 95616	Ursula K. Abbott	87-CRCR-1-2301 8700237	$217,500	06-01-87 05-31-90	Developmental Analysis of the Avian Germ Line
Northern Plains Area ARS, USDA Fort Collins, CO 80526	Joan H. Eisemann	87-CRCR-1-2587 8700282	$139,000	09-15-87 09-30-90	Mechanisms of Interorgan Metabolism During Growth
Wesleyan Univ. Middletown, CT 06457	Lewis N. Lukens	87-CRCR-1-2483 8700202	$150,000	08-01-87 07-31-90	Regulation of Collagen Genes During Changes in Chondrocyte Differentiation

Univ. of Florida Gainesville, FL 32611	Dov Borovsky	87-CRCR-1-2394 8700083	$91,000	09-01-87 08-31-90	Role of Peptide Hormones in Invertebrate Reproduction
Iowa State Univ. of Science & Technology Ames, IA 50011	Carol M. Warner	87-CRCR-1-2388 8700146	$5,000	09-01-87 08-31-88	Research Symposium: Molecular Biology of the MHC of Domestic Animal Species
Univ. of Illinois Champaign, IL 61820	Bryan A. White	87-CRCR-1-2281 8700018	$250,000	07-01-87 06-30-90	Enzymatic and Genetic Analysis of Ruminococcus Cellulases
Univ. of Illinois Urbana, IL 61801	Harris A. Lewin	87-CRCR-1-2292 8700165	$125,000	06-01-87 05-31-90	Detection of Major Genes for Growth Using Genetic Markers
Kansas State Univ. Manhattan, KS 66506	Frank Blecha	87-CRCR-1-2309 8700217	$239,500	07-01-87 06-30-90	Immunomodulation and Stress Hormone Interactions in Bovine Lymphocytes
Michigan State Univ. East Lansing, MI 48824	H. Allen Tucker	87-CRCR-1-2302 8700191	$280,000	08-01-87 07-31-90	Photoperiodic Regulation of Hypothalamic and Pituitary Cells
Univ. of Minnesota St. Paul, MN 55104	William R. Dayton	87-CRCR-1-2531 8700036	$120,000	09-01-87 08-31-90	Purification of a Porcine-Serum-Borne Inhibitor of Muscle Cell Proliferation

North Carolina State Univ. Raleigh, NC 27695	Ruth M. Shuman	87-CRCR-1-2276 8700193	$300,000	07-01-87 06-30-90	Gene Transfer and Tissue-Specific Expression in Avian Species
Ohio State Univ. Res. Fdn. Columbus, OH 43212	Timothy G. Ramsay	87-CRCR-1-2533 8700147	$120,000	09-15-87 09-30-90	Regulation of Porcine Preadipocyte Growth and Use for Clone Production
Ohio State Univ. Res. Fdn. Columbus, OH 43212	F. A. Simmen	87-CRCR-1-2532 8700058	$135,000	08-01-87 07-31-90	Porcine IgG Receptors in Developing and Lactating Mammary Gland
Pennsylvania State Univ. University Park, PA 16802	C. R. Baumrucker	85-CRCR-1-1881 8700262	$130,000	09-15-85 09-30-89	IGF_1 Stimulation of Bovine Mammary Tissue Growth
Univ. of Texas Medical Branch Galveston, TX 77550	David A. Konkel	87-CRCR-1-2354 8700215	$110,500	07-01-87 06-30-89	A New ras Oncogene-related Gene Family - Structure, Function and Regulation
Univ. of Wisconsin Madison, WI 53706	Neal L. First	87-CRCR-1-2303 8700174	$142,500	09-15-87 09-30-90	Ontogeny and Control of Development of Bovine Preimplantation Embryos
Univ. of Wisconsin Madison, WI 53706	C. J. Czuprynski	87-CRCR-1-2308 8700040	$120,000	07-01-87 06-30-90	Molecular Events in Interferon and Interleukin-1 Stimulated Bovine Neutrophils
		TOTAL	$3,075,000		

ANIMAL SCIENCE

The emphasis in this research program is to improve reproductive efficiency in domestic farm animals. Research is supported in all possible problem areas: puberty, ovulation, corpus luteum formation and function, sperm physiology, insemination, fertilization, prenatal death, and poor survival of offspring.

Brucellosis

The Brucellosis program supports research at the molecular, cellular, and genetic levels that: define the mechanisms by which *Brucella abortus* induces disease in cattle and persists as an infectious agent; defines the basis of the bovine immune response with *B. abortus* that results in protective immunity; through molecular techniques identifies and produces immunogens to stimulate long-lived protective immunity in cattle; identifies and produces antigens to differentiate among non-infected, vaccinated and *B. abortus* - infected cattle.

Reproductive Physiology

This sub-program area supports innovative research in the following categories: (a) Mechanisms affecting embryo survival, endocrinological control of embryo development, mechanisms of embryo-maternal interactions, and embryo implantation; (b) gamete physiology, primarily gametogenesis including maturation processes, follicle growth, ovulation, corpus luteum formation and function and superovulation; fundamental processes of fertilization mechanisms regulating gamete survival *in vivo* and *in vitro*, and basic questions regarding gamete transport and (c) fundamental questions addressing parturition, postpartum interval to conception and neonatal survival.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: ANIMAL SCIENCE - BRUCELLOSIS

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Scripps Clinic & Res. Fdn. 10666 N. Torrey Pines Rd. La Jolla, CA 92037	Fred Heffron	87-CRCR-1-2468 8701475	$310,300	08-01-87 07-31-90	Transposon Mutagenesis in *Brucella abortus* to Identify New Virulence Genes
Cornell Univ. Ithaca, NY 14853	Alexander J. Winter	85-CRCR-1-1859 8701473	$140,000	09-15-85 09-30-89	Immunity in Brucellosis: Comparative Response to Virulent and Attenuated Strains
		TOTAL	$450,300		

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: ANIMAL SCIENCE - REPRODUCTIVE EFFICIENCY

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California San Francisco, CA 94143	Dennis Kiyoshi Fujii	87-CRCR-1-2544 8701145	$150,000	09-01-87 08-31-90	Bovine Uterine Epithelium; Growth and Hormonal Responses
Colorado State Univ. Fort Collins, CO 80523	G. D. Niswender	87-CRCR-1-2523 8701261	$100,000	09-01-87 08-31-89	Role of Conceptal Proteins and Prostaglandins During Early Pregnancy in Ewes
Univ. of Connecticut Storrs, CT 06268	Robert A. Milvae	87-CRCR-1-2539 8701231	$125,000	09-01-87 08-31-90	Follicular Granulosa Cell Contributions to Bovine Corpus Luteum Function
Univ. of Idaho Moscow, ID 83843	R. Garth Sasser	87-CRCR-1-2521 8701259	$100,000	09-15-87 09-30-89	The Role of Pregnancy-specific Protein B in Pregnancy Recognition
Univ. of Illinois Champaign, IL 61820	James E. Hixon	87-CRCR-1-2537 8701230	$150,000	09-01-87 08-31-90	The Role of Oxytocin and its Uterine Receptor in Luteolysis

Univ. of Illinois Urbana, IL 61801	O. David Sherwood	87-CRCR-1-2578 8700970	$150,000	09-01-87 08-31-90	Determination of the Effect of Relaxin on the Cervix in Pregnant Pigs
Purdue Res. Fdn. West Lafayette, IN 47907	Patricia Y. Hester	87-CRCR-1-2515 8700962	$64,396	09-15-87 09-30-89	The Role of Prostaglandins in the Premature Oviposition of Chicken Eggs
Purdue Res. Fdn. West Lafayette, IN 47907	P. V. Malven	87-CRCR-1-2538 8701280	$140,000	09-01-87 08-31-90	Progesterone-induced Mechanisms Inhibitory to LH Secretion
Univ. of Kentucky Res. Fdn. Lexington, KY 40546	Keith K. Schillo	87-CRCR-1-2567 8701191	$90,000	09-01-87 08-31-89	Effects of Lipid Metabolism on Luteinizing Hormone Release in Prepubertal Lambs
Univ. of Michigan Ann Arbor, MI 48109	Douglas L. Foster	87-CRCR-1-2550 8701281	$150,000	09-01-87 08-31-90	Modulation of Gonadotropins and the Timing of Puberty by Nutrition and Growth
Univ. of Minnesota St. Paul, MN 55104	J. E. Wheaton	87-CRCR-1-2540 8701136	$100,000	09-01-87 08-31-89	Ovine Inhibin Fragments as Immunogens to Increase Fertility
Ohio State Univ. Res. Fdn. Columbus, OH 43212	Wayne L. Bacon	87-CRCR-1-2568 8701153	$80,000	09-15-87 09-30-89	Yolk Precursor Metabolism in Turkey Hens Differing in Growth Rate and Reproductive Efficiency

Oregon State Univ. Corvallis, OR 97331	Alfred R. Menino	87-CRCR-1-2536 8701255	$150,000	09-01-87 08-31-90	Is Plasminogen Involved in the Hatching of Livestock Embryos?
Vanderbilt Univ. Nashville, TN 37240	David L. Garbers	87-CRCR-1-2569 8701254	$102,000	09-15-87 09-30-89	Signal/Transduction Mechanisms in Bovine Spermatozoa
Southern Plains Area USDA, ARS College Station, TX 77840	Michael T. Zavy	87-CRCR-1-2502 8701271	$150,000	09-01-87 08-31-89	Endometrial Cell Biology as Influenced by the Conceptus or Progesterone Treatment
Texas A&M Res. Fdn. College Station, TX 77843	G. L. Williams	87-CRCR-1-2496 8701188	$152,000	09-01-87 08-31-90	Mammary Somatosensory Signalling and Postpartum Anestrus in Suckled Cows
Texas A&M Res. Fdn. College Station, TX 77843	W. R. Klemm	87-CRCR-1-2579 8701288	$150,000	09-01-87 08-31-89	Estrous-specific Compounds and Pheromone in Cervico-vaginal Mucus
Washington State Univ. Pullman, WA 99164	H. H. Westberg	87-CRCR-1-2522 8701270	$150,000	09-15-87 09-30-89	Determination of Reproductive Pheromones in the Cow

TOTAL $2,253,396

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: ANIMAL SCIENCE - REPRODUCTIVE PHYSIOLOGY

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California Davis, CA 95616	Wallis H. Clark	87-CRCR-1-2514 8701200	$120,000	09-15-87 09-30-89	Attainment of Competency in the Sperm of the Marine Shrimp, Sicyonia Ingentis
South Atlantic Area ARS, USDA Athens, GA 30613	James S. Kesner	87-CRCR-1-2519 8701273	$47,796	09-15-87 09-30-88	Studies on the Neuroendocrine Control of Gonadotropin Secretion in the Gilt
Univ. of Missouri Columbia, MO 65211	R. Michael Roberts	87-CRCR-1-2543 8701316	$200,000	09-15-87 09-30-90	Structure, Function and Hormonal Control of Synthesis of Porcine Uterine Proteins
Agric. Expt. Stn. North Dakota State Univ. Fargo, ND 58105	Dale A. Redmer	87-CRCR-1-2573 8701207	$180,000	09-01-87 08-31-90	Role of Angiogenic Factors in Ovarian Function
Rutgers Univ. New Brunswick, NJ 08903	Juan-Pablo Advis	87-CRCR-1-2558 8701175	$180,000	09-15-87 09-30-90	Neuroendocrine Control of Ovulation in the Domestic Hen

The Population Council, Inc. New York, NY 10017	David M. Phillips	87-CRCR-1-2583 8701171	$200,000	09-01-87 08-31-90	Cell Biology of the Cumulus Oophorus
Univ. of Cincinnati Cincinnati, OH 45221	William J. Larsen	87-CRCR-1-2574 8701180	$200,000	09-01-87 08-31-90	Factors Enhancing Cumulus Expansion: Effect on In Vitro Fertilization
Univ. of Wisconsin Madison, WI 53706	B. C. Wentworth	87-CRCR-1-2529 8701219	$100,000	09-01-87 08-31-89	The Recessive White Quail Embryo as the Surrogate Host for Wild-type Quail Primordial Germ Cells
Univ. of Wisconsin Madison, WI 53706	Roy L. Ax	85-CRCR-1-1864 8701329	$125,000	09-15-85 09-30-89	Characteristics of Glycosaminoglycan Binding Sites in Ovarian Follicles of Cows

TOTAL $1,352,796

ALCOHOL FUELS RESEARCH

This program supports research activities related to the physiological, microbiological, biochemical, and genetic processes controlling the biological conversion of agriculturally important biomass material to alcohol fuels and industrial hydrocarbons. Studies on factors which limit efficiency of biological production of alcohol fuels and means of overcoming these limitations are also encouraged.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: ALCOHOL FUELS

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Purdue Res. Fdn. West Lafayette, IN 47907	Michael R. Ladisch	87-CRCR-1-2454 8701284	$76,000	09-01-87 08-31-89	Fermentable Sugars from Cellulose Treated with Water and Intercalating Agents
Purdue Res. Fdn. West Lafayette, IN 47907	Nancy W.Y. Ho	85-CRCR-1-1713 8701286	$96,228	09-01-85 08-31-89	Improvement of Yeast Alcohol Fermentation Via Genetic Engineering
Univ. of Massachusetts Amherst, MA 01003	E. Canale-Parola	87-CRCR-1-2398 8701214	$97,491	09-01-87 08-31-89	Cellulases and Hemicellulases of Ethanol-producing Mesophilic Bacteria
North Carolina State Univ. Raleigh, NC 27695-7003	Leo W. Parks	85-CRCR-1-1634 8701147	$100,553	08-01-85 07-31-89	Cell Membrane Technology in the Fermentative Production of Alcohol
Lehigh Univ. Bethiehem, PA 18015	B. S. Montenecourt	87-CRCR-1-2387 8701161	$117,000	09-01-87 08-31-89	Isolation and Cloning of the (R)-Lactyl-CoA Dehydratase Gene from *Megasphaera elsdenii*
		TOTAL	$487,272		

INSECT PEST SCIENCE

Before successful strategies for managing insect pests can be developed, a strong basic insect biology research effort is needed. The Insect Pest Science Program provided $901,548 each for basic studies on boll weevil/bollworm, pine bark beetle, and gypsy moth. This program area supports research on behavioral physiology; chemical ecology; insect-host interaction; endocrinology; population dynamics; behavioral ecology; and insect pathogens, parasites, and predators.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: INSECT PEST SCIENCE - BOLL WEEVIL/BOLL WORM

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of Arizona Tucson, AZ 85721	William S. Bowers	87-CRCR-1-2489 8702272	$150,000	09-15-87 09-30-90	Storage Protein Mediated Deposition and Release of Inhibitors in Bollworm Fatbody
Univ. of California Riverside, CA 92521	Thomas C. Baker	87-CRCR-1-2577 8702280	$150,000	09-01-87 08-31-90	Flight Control in *Heliothis virescens* and *Heliothis zea*
South Atlantic Area ARS, USDA Athens, GA 30613	P. D. Greany	87-CRCR-1-2479 8702167	$100,000	09-15-87 09-30-89	Chemical Mediation of Oviposition and Egg Development by a Bollworm Endoparasite
South Atlantic Area ARS, USDA Athens, GA 30613	Peter E. Teal	87-CRCR-1-2490 8702164	$100,000	08-01-87 07-31-90	Genetics and Biosynthesis of Sex Pheromone Blends by *Heliothis* Species
Univ. of Missouri Columbia, MO 65211	Thomas R. Yonke	87-CRCR-1-2463 8702179	$8,000	08-01-87 07-31-88	Genetics of Maize Insects: An Invitation by the Hungarian Academy of Sciences

Mid-South Area ARS, USDA Stoneville, MS 38776	K. R. Hopper	87-CRCR-1-2473 8702251	$100,000	09-15-87 09-30-90	Host Plant Attractance and Within-Habitat Search Rate of *Heliothis* parasitoids
North Carolina State Univ. Raleigh, NC 27695	George G. Kennedy	87-CRCR-1-2505 8701265	$100,000	09-01-87 08-31-90	Effects of Hornworm Resistance in Tomato on Natural Enemies of *Heliothis zea*
Clemson Univ. Clemson, SC 29634	David G. Heckel	87-CRCR-1-2506 8702153	$93,548	08-01-87 07-31-89	Basic and Applied Genetic Linkage Mapping in *Heliothis virescens*
Texas A&M Res. Fdn. College Station, TX 77843	Roger W. Meola	87-CRCR-1-2474 8702224	$100,000	09-01-87 08-31-89	Characterization and Isolation of the Heliothis Zea Diapause Termination Factor

TOTAL $901,548

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: INSECT PEST SCIENCE - GYPSY MOTH

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of Illinois Champaign, IL 61820	Michael R. Jeffords	87-CRCR-1-2516 8702071	$150,000	09-15-87 09-30-90	European Microsporidia as Biological Control Agents of the Gypsy Moth
Univ. of Massachusetts Amherst, MA 01003	Joseph S. Elkinton	87-CRCR-1-2498 8702146	$100,000	09-01-87 08-31-89	Spatial Analysis of Gypsy Moth Density and Mortality
Univ. of Massachusetts Amherst, MA 01003	David E. Leonard	87-CRCR-1-2497 8702265	$20,000	09-01-87 08-31-88	Gypsy Moth Storage Proteins as Indices of Nutritive Quality in Field Populations
Univ. of Maryland College Park, MD 20742	Richard B. Imberski	87-CRCR-1-2562 8701645	$50,000	09-01-87 08-31-88	Reproductive Physiology of Gypsy Moths: Mechanism of Light-induced Sterility
Oregon State Univ. Corvallis, OR 97331	R. E. Berry	87-CRCR-1-2478 8702064	$251,824	09-01-87 08-31-90	Regulation of Development and Detoxication in Gypsy Moth *Lymantria dispar* (L.)

Northeastern Forest Experiment Station Forest Service, USDA Broomall, PA 19008	William E. Wallner	87-CRCR-1-2524 8702168	$15,000	09-01-87 08-31-88	Conference Grant: Comparison of Features of New and Old World Tussock Moths (Lymantriidae)
North Atlantic Area ARS, USDA Philadelphia, PA 19118	Richard S. Soper	87-CRCR-1-2503 8701944	$100,000	09-01-87 08-31-89	Epizootiology of Entomophaga maimaiga, a Fungal Pathogen of the Gypsy Moth
Temple Univ. Philadelphia, PA 19122	M. G. Wolfersberger	87-CRCR-1-2487 8701968	$100,000	09-01-87 08-31-89	Selection of Optimal Bacillus thuringiensis Strain for Gypsy Moth Control
Univ. of Vermont Burlington, VT 05405	George M. Happ	87-CRCR-1-2488 8701969	$54,724	09-01-87 08-31-88	Control of Reproduction of Male Gypsy Moths
Univ. of Wisconsin Madison, WI 53706	William R. Engels	87-CRCR-1-2517 8701523	$60,000	09-01-87 08-31-89	Baculovirus-mediated Transformation of Insects

TOTAL $901,548

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: INSECT PEST SCIENCE - PINE BARK BEETLE

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California Berkeley, CA 94720	Donald L. Dahlsten	87-CRCR-1-2480 8701961	$90,000	09-01-87 08-31-89	Host Specificity of Ips spp. Parasitoids in Three California Pinus Species
Univ. of Florida Gainesville, FL 32611	James L. Nation	87-CRCR-1-2491 8702177	$160,000	09-01-87 08-31-90	Chemical Ecology of Host Colonization by the Black Turpentine Beetle
Univ. of Georgia Research Foundation, Inc. Athens, GA 30602	C. Wayne Berisford	87-CRCR-1-2494 8702286	$103,117	09-01-87 08-31-89	Evaluation of Behavioral Chemicals for Suppression of Southern Pine Beetle
North Central Experiment Station FS, USDA St. Paul, MN 55108	R. A. Haack	87-CRCR-1-2481 8702150	$50,000	09-01-87 08-31-88	Impact of Ultrasonic Acoustics on the Colonization Behavior of a Pine Bark Beetle
North Carolina State Univ. Raleigh, NC 27695	Fred P. Hain	85-CRCR-1-1860 8702217	$160,000	09-15-85 09-30-89	Host Resistance of Southern Yellow Pines to Bark Beetle Attack

Cornell Univ. Ithaca, NY 14853	Charles F. Aquadro	87-CRCR-1-2482 8702160	$100,000	09-01-87 08-31-89	Genetic Divergence in the Pine Weevils
Brigham Young Univ. Provo, UT 84602	Stephen L. Wood	87-CRCR-1-2582 8701484	$88,431	09-01-87 08-31-90	A World Catalog of Scolytidae and Platypodidae (Coleoptera)
Univ. of Washington Seattle, WA 98195	Robert I. Gara	87-CRCR-1-2499 8701173	$150,000	09-01-87 08-31-90	Effect of Fungal Pathogens of Lodgepole Pine on Mountain Pine Beetle Activity

TOTAL $901,548

HUMAN REQUIREMENTS FOR NUTRIENTS

The emphasis in this program area is on determining human requirements for nutrients. Support is not provided for clinical research or for demonstration or action projects.

Research in human nutrition contributes to improving human nutritional status by increasing our understanding of requirements for nutrients in relation to different patterns of food intake. Findings help fill the gaps of our knowledge related to nutrient requirements, bioavailability, the interrelationships of nutrients, and the nutritional value of foods consumed in the United States as they relate to these requirements. Special attention in this program area is given to the study of trace constituents of foods and their effect on human health.

COMPETITIVE RESEARCH GRANTS PROGRAM
PROGRAM AREA: HUMAN NUTRITION

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE
Univ. of California Davis, CA 95616	Quinton R. Rogers	87-CRCR-1-2418 8700288	$70,000	07-15-87 07-31-88	Neural Responses to Disproportionate Amino Acid Diets: Role of Monoamines
Univ. of California Davis, CA 95616	Kathryn G. Dewey	86-CRCR-1-1968 8702277	$72,400	06-01-86 05-31-89	Nutrient Intake and Growth of Breast-Fed Infants, 3-18 Months
Univ. of California Davis, CA 95616	Bo Lonnerdal	87-CRCR-1-2572 8700289	$40,000	09-01-87 08-31-88	Manganese Absorption in Humans
Univ. of Colorado Health Sciences Center Denver, CO 80262	K. M. Hambidge	87-CRCR-1-2337 8700402	$160,996	09-15-87 09-30-90	Psychocognitive Effects of Mild Zinc Deficiency in Infants
Univ. of Florida Gainesville, FL 32611	Peggy L. Borum	87-CRCR-1-2465 8700231	$42,000	09-01-87 08-31-88	Is Carnitine an Essential Nutrient for the Newborn?

Iowa State Univ. of Science & Technology Ames, IA 50011	James A. Olson	87-CRCR-1-2320 8700019	$270,000	07-01-87 06-30-90	Evaluation of the Status and Requirements of Humans for Vitamin A
Univ. of Iowa Iowa City, IA 52242	Donald M. Mock	87-CRCR-1-2331 8700310	$50,000	07-01-87 06-30-88	Biotin in Human Milk
Purdue Research Foundation West Lafayette, IN 47907	S. Suzanne Nielsen	85-CRCR-1-1621 8700177	$40,000	09-15-85 09-30-88	Resistance of Legume Proteins to Proteolysis: Role of Heat-Stable Proteinase Inhibitors
Louisiana State Univ. & A&M College Baton Rouge, LA 70803	Daniel H. Hwang	87-CRCR-1-2513 8700136	$60,000	09-15-87 09-30-89	Effects of Different Types of Dietary w3 Fatty Acids on Eicosanoid Synthesis
Univ. of Massachusetts Amherst, MA 01003	John J. Cunningham	87-CRCR-1-2565 8700251	$50,000	09-15-87 09-30-88	Vitamin C Status in Healthy Women: A Stable Isotope Approach
Boston Univ. Boston, MA 02118	Steven H. Zeisel	87-CRCR-1-2464 8700132	$56,000	09-01-87 08-31-89	Choline Deficiency in Humans - Effects on Muscle Function
Massachusetts Inst. of Technology Cambridge, MA 02139	George Wolf	87-CRCR-1-2321 8700312	$260,000	09-01-87 08-31-90	Biochemical Reasons for the Requirement of Vitamin A in the Mammalian Organism

Massachusetts Inst. of Technology Cambridge, MA 02139	Vernon R. Young	87-CRCR-1-2566 8700059	$51,000	09-15-87 09-30-88	Methionine Kinetics in Relation to Methionine Requirements in Man
Johns Hopkins Univ. Baltimore, MD 21218	Tomas R. Guilarte	87-CRCR-1-2527 8700102	$40,000	09-01-87 08-31-88	Maternal Vitamin B-6 Nutrition: Effects on the Dopaminergic System of Progeny
Michigan State Univ. East Lansing, MI 48824	Maija H. Zile	87-CRCR-1-2449 8700223	$110,000	08-01-87 07-31-89	Metabolism and Function of Retinoic Acid in the Small Intestine
Univ. of Missouri Columbia, MO 65211	Gretchen M. Hill	87-CRCR-1-2575 8700230	$51,000	09-15-87 09-30-89	Estimation of Daily Copper Intake
State Univ. of New York Albany, NY 12201	Joseph L. Napoli	87-CRCR-1-2332 8700046	$65,000	09-01-87 08-31-88	Dietary Carotenoids and the Concentrations of Vitamin A in Tissues
Cornell Univ. Ithaca, NY 14853	Dennis D. Miller	87-CRCR-1-2315 8700238	$70,000	07-01-87 06-30-89	Calcium Bioavailability in Dairy Foods: Validation and Application of a Method
Cornell Univ. Ithaca, NY 14853	Daphne A. Roe	87-CRCR-1-2338 8700129	$50,000	09-01-87 08-31-88	Photodegradation of Carotenoids in Vivo: Assessment of Role of Photosensitizers

Monell Chemical Senses Center 3500 Market Street Philadelphia, PA 19104	Michael G. Tordoff	87-CRCR-1-2316 8700176	$86,000	09-01-87 08-31-89	Nonnutritive Sweeteners and Food Intake in Man
Medical College of Pennsylvania Philadelphia, PA 19129	A. Catharine Ross	86-CRCR-1-1980 8702767	$70,000	07-01-86 06-30-88	Vitamin A and Immunity
Univ. of Texas Austin, TX 78712	J. Freeland-Graves	87-CRCR-1-2312 8700116	$80,000	08-01-87 07-31-89	Requirements of Manganese in Women
Agric. Expt. Stn. Virginia Polytechnic Inst. & State Univ. Blacksburg, VA 24061	George E. Bunce	86-CRCR-1-1946 8702762	$30,000	07-01-86 06-30-88	Interaction of Zinc and Vitamin B_6 in Estrogen-directed Gene Expression
Virginia Commonwealth Univ. Richmond, VA 23298	Gregory S. Heard	85-CRCR-1-1592 8700221	$50,000	09-01-85 08-31-89	Bioavailability and Requirements of Biotin for Infants and Children
Univ. of Wisconsin Madison, WI 53706	William H. Karasov	87-CRCR-1-2311 8700186	$60,000	07-01-87 06-30-89	Nutritional Modulation of Intestinal Vitamin Transport

Univ. of Wisconsin Madison, WI 53706	Janet L. Greger	87-CRCR-1-2323 8700100	$80,000	07-01-87 06-30-89	Chloride, Calcium and Sodium Interactions
Univ. of Wisconsin Madison, WI 53706	John W. Suttie	87-CRCR-1-2322 8700145	$189,000	09-15-87 09-30-89	Human Phylloquinone Requirement

TOTAL $2,253,396

LOW-INPUT AGRICULTURE

Question: This year, we have a $3.9 million for Low-Input Agriculture Research. This is a new initiative and I am very interested in the use of this money. How are you awarding $3,900,000?

Answer: Each of the four regions in the United States will have an Administrative Council and Technical Committee. The Administrative Council is composed of 5 members with representatives from State Agricultural Experiment Stations, Cooperative Extension Services, Agricultural Research Service, private research and education institutions, and product representatives. The Administrative Council is responsible for overall policy formulation at the regional level, appointing the technical committee, ensuring the involvement of all eligible institutions and submitting an annual plan of work to the United States Department of Agriculture.

The technical committee is the action level in each region. It establishes goals and criteria for selecting projects and prepares the regional plan of work. It includes researchers, extension specialists, and farm management specialists. In some regions the administrative council and technical committee may be merged. For 1988 an ad-hoc working group was formed to get the program underway. It has the same representatives as discussed above but has not been formally established. The funds for each region are being sent through one experiment station. For 1988 these stations are Vermont, Georgia, Nebraska, and California. Initially, $15,000 is being sent to each region to prepare a plan of work. That process is now underway. After the plan of work is approved by USDA the remainder of the funds will be sent to the regions to implement projects.

The key elements being considered in the Regional Plans of Work are:

1. Active participation of universities, Agricultural Research Service, private research and education institutions, and producers.
2. Inclusion of both research and extension with interdisciplinary approaches.
3. Early emphasis on providing information to farmers in readily usable form so that past and ongoing research can be applied immediately.

Question: What do you expect the focus of this research to be and what concrete results might we expect?

Answer: The focus of this research will be the development of profitable farming practices with reduced dependence on purchased inputs, particularly chemical pesticides and fertilizers. The concrete results expected include test demonstrations on commercial-scale farms using a combination of low-input and conventional farming practices. We also expect a wide range of readily usable materials, such as video instructional cassettes, user-friendly computer software, popularized publications, and field days that will enable farmers to adapt low-input farming methods that reduce environmental risks and increase profits.

Question: Do you expect to meet the deadline of July 1, 1988 for reporting to the committee on the activities in this area, and your recommendations for future funding?

Answer: By July 1, 1988 we will report on the projects approved and plans of work developed in each of the regions. We will also report on the involvement of various organizations including private foundations, producer groups, and various universities and agencies.

Question: Why is there no budget request for additional Low-Input Agricultural Research for Fiscal Year 1989?

Answer: Due to the discretionary nature of the Hatch Act formula and related base funded programs, amounts allocated to State institutions permit the institutions to fund research in those areas that they identify as high priority. This flexibility allows the state institutions to continue support of the Low-Input program if they consider it a high priority.

Question: In addition to the $3.9 Million provided for fiscal year 1988, how much other money through CSRS is being spent on Low-Input Agriculture?

Answer: Recently the Cooperative State Research Service, in cooperation with Iowa State University, assessed conventional and organic-related farming systems research being undertaken at State Agricultural Experiment Stations with funding from CSRS programs. The results of this assessment indicated that $68.0 million applies to either organic or conventional farming systems, of which $3.5 million has direct relevance to organic-related farming systems. The report is Iowa Agricultural Experiment Station Special Report 91, published in February, 1986.

INTERNATIONAL TRADE CENTERS

Question: What is the status of the Mid-America International Trade Center and the trade center to be established at Kentucky?

Answer: Guidelines prepared explicitly for International Trade Development Centers for Agriculture have been submitted to both institutions by the Cooperative State Research Service to solicit their proposals. Conferences have been held with officials of both institutions to explain applicable procedures and assistance will be provided upon request.

SPECIAL RESEARCH GRANTS

Question: For the following Special Research Grants, please provide information regarding the grantees, the amount, the type of research being conducted, and the progress to date:

Pest Management
Rural Development Centers
Animal Health
Pesticide Clearance
Minor Use Animal Drugs
Pesticide Impact Assessment
Aquaculture
Mosquito Research
Tropical and Subtropical
Dark-end Syndrome
Biocontrol of Grasshoppers
Wood Utilization Research
Southwest Consortium for Plant Genetics and Water Resources
Prime Farmland Reclamation
Belgian Endive
Acid Precipitation
Shrimp Aquaculture (under Federal Administration)

Answer: A list of the fiscal 1987 grants awarded in these area is provided, as well as information on research and progress to date. Most of the 1988 grants will not be awarded until later during the year.

Pest Management. Research being conducted under fiscal year 1987 grants will continue work to synchronize the management of pests with the production of the crop to maximize the economic yield, increase the efficiency of production and grower profits by reducing production costs, sustain agricultural productivity in national and international markets, and resolve environmental and biological problems associated with past pest control approaches.

IPM programs have greatly decreased production costs and environmental bio-safety problems associated with the commodities currently under study. For example, increased net profits of approximately $500 per acre for the Northeast and North Central apple-producing areas of the United States have been documented. Disease and insect management programs have extended the life of alfalfa stands by one year. In California alone, the result is a $15 million annual increase in profits to producers. Economic studies have substantiated over $510 million annually as direct benefits to Texas as a result of IPM programs for cotton in the state. The greatest impact of the current National IPM program is the leverage it places on interdisciplinary and interaction research at all of the 44 participating institutions. A publication, "National IPM Program, Organization, Objectives, Progress, and Accomplishments, 1984-1986" has been published which gives fuller details and accomplishments of the program.

Rural Development Centers. Research conducted under the fiscal year 1987 funds will provide information to public officials, rural families, and entrepreneurs in the individual states and across the regions served by each of the four Regional Rural Development Centers existing in fiscal year 1987. Much of the research sponsored by the Centers is funded from several consecutive grants. Work reported here is that which was completed in 1987, or is being generated from 1987 funds. Some examples are:

The Northeast Center, Pennsylvania State University, sponsored a collaborative study by researchers from Pennsylvania, Maryland, and Delaware to help local officials make effective economic investment decisions. An expert system for microcomputers called NEEDS, North East Economic Development System, was developed, implemented and tested in several Northeastern States, and is being made available to local officials through Extension Service and State development agencies. Similarly, the North Central Center, Iowa State University, sponsored research to develop computer simulation software to help local governments prepare budgets on road and bridge maintenance. This information was disseminated through a regional conference on interstate rural transportation.

The Western Center, Oregon State University, is conducting a study on variations in consumer prices among small towns in the Western Region. Based on previous Centers studies, the results will be helpful to retail businesses for pricing and promotion, and to advise people moving into the area on cost of living differentials. A companion study is assessing the critical concerns of elderly persons migrating into the Western region and will develop a data base to be shared among State scientists in a regional research project.

The Southern Center, Mississippi State University, is undertaking a major program to establish research priorities across the South. Four task forces have been established to evaluate: strategies for job creation and retention; alternatives for financing infrastructure; farm and off-farm alternatives for small-scale farmers; and, rural leadership and human resource development. Reports from these task forces in 1988 are expected to influence and redirect research to timely and critical areas.

Animal Health. Animal Health Research being conducted under the fiscal year 1987 grants will be directed toward solving reproductive diseases of beef and dairy cattle and toward control of anestrus which should reduce the calving interval, thereby providing higher productivity with less capital input into the industry. Beef and dairy cattle respiratory diseases such as shipping fever will receive research effort primarily through the application of biotechnology methods and procedures to enhance the host immune response, modulate subunit vaccines and manipulation and control of cellular reactions to certain respiratory viruses. Enteric diseases such as salmonellosis in calves and Johne's Disease in beef and dairy cattle will be the focus of several grants in 1987. More accurate diagnoses, definition of the carrier state and the humoral reaction of certain gram negative bacteria in calves will receive emphasis.

One project is on bovine coccidiosis, looking at the surface antigens for prospects of effective vaccination. Metabolic diseases and mastitis will be the center of emphasis in profiling the intermediate metabolites in calcium metabolism and characterizing the functions of certain lymphocytes and the lyphokine communicators at the cellular level. Swine diseases such as TGE and Rotaviruses, haemophilus pneumonia, pseudorabies, leptospirosis and porcine proliferative enteritis were emphasized in 1987. The grants awarded for Poultry Disease research include the application of monoclonal antibodies and development of DNA probes to detect Mycoplasma gallisepticum and Pasteurella multocida which are two primary causes of respiratory disease losses in turkeys and chickens. Also, molecular techniques will be used to diagnose laryngotracheitis, Marek's Disease and Infectious Brazil Disease in chickens. Studies funded in sheep and goat disease research included the molecular characterization of Bluetongue Virus antigens, recombinant vaccine development for ovine footrot and chemical investigations of Corynebacterium pseudotuberculosis. Horse or equine disease research funding emphasized endotoxemic collie and further refinement of a vaccine for Potomac Horse Fever. Aquaculture awards went to scientists studying monoclonal antibodies in the detection of Infectious Hematopoietic Necrosis Virus (IHN) and disease resistence in Channel catfish.

Funding was initially appropriated for Animal Health Special Grants in Fiscal Year 1979. Accomplishments include the development of DNA probes for detection of bluetongue and anaplasmosis in ticks. Several other research teams are near development of newer, more specific diagnostic methods for salmonella, campylobacter, pseudorabies, brucellosis, retroviruses, Johne's disease, avian pasteurella, chlamydiosis, foot rot in sheep, and diseases of catfish. Many of the Animal Health Special Grants are supporting work utilizing the latest biotechnological tools to develop new vaccines for bluetongue, pseudorabies, chlamydia induced polyarthritis in sheep, brucellosis, anaplasmosis, avian coccidiosis, strangles in horses, cryptosporidiosis in calves, liver fluke infection in cattle, equine infectious anemia, and rotovirus infections in calves. Improved diagnostic methodology utilizing monoclonal antibodies and labeled antigens is being developed in detection of bovine virus diarrhea, infectious bovine rhinotracheitis, porcine rotoviruses, and vesicular diseases in cattle.

Pesticide Clearance. Research being conducted under fiscal year 1987 Pesticide Clearance Grants will be coordinated through the headquarters office located at Rutgers University and the four regional research laboratories located at Cornell University, Michigan State University, University of Florida and the University of California at Davis. This program provides national leadership and a focal point for obtaining efficacy and residue safety data for pesticides and biological control agents considered for use in small acreage plant and minor species animal pest and disease control practices. The need for public participation in the development of this data arose because the agricultural chemical, animal drug and biological pest control industries cannot economically justify the time and expense needed to conduct the research necessary for the registrations of these materials with such small market potentials.

The Federal registrations resulting from this research will make possible commercial production of many small-acreage crops that would otherwise be either impossible or non-competitive. Fiscal year 1987 research should result in the examination of over 250 crop and animal pest or disease control needs and the eventual registration of about 125 products address these needs.

Funding was initially appropriated for this Special Research Grant category in fiscal year 1976. In the intervening years 2,603 clearances for use of pesticides on ornamental crops have been obtained by the program. Over 525 tolerances for use in food crops, 9 approvals for use of drugs in minor animals and 6 approvals for biological control agents have also been obtained by the project.

Minor Use Animal Drugs. Research being conducted under the fiscal year 1987 grants will provide data necessary for the clearance of animal drugs needed for use in minor species and for minor uses in the major food animal species. Because of their limited use, the cost of such clearances cannot be borne by the drug manufacturer. Such clearances are urgently needed to prevent loss from disease and to deter the improper use of such drugs. Improper administration may not only prove to be harmful to the animal but also result in residues harmful to the consumer.

Funding was initially appropriated for this Special Research Grant category in fiscal year 1982. Accomplishments include the clearance of eight drug usages with six others pending approval in 1988. To date, 161 drug requests have been submitted for clearance. Working in conjunction with many universities, the United States Department of Interior, Fish and Wildlife Service, ARS and 14 different pharmaceutical companies, 12 research projects are now active and will be continued through 1988 to establish data for clearances. The Center for Veterinary Medicine of the Food and Drug Administration is cooperating and supporting this program to the fullest extent. The program is a prime example of Federal interagency cooperation with the pharmaceutical industry and commodity interests to effectively meet an urgent need.

Pesticide Impact Assessment. Research being conducted under the fiscal year 1987 grants continues to address issues that will contribute to scientifically sound decisions on pesticide regulatory issues. Particular emphasis has been placed on areas relating to the environment and human exposure to pesticides. A better understanding of the impacts of various types of pesticide application methodology on the delivery of chemicals to the desired target will reduce the risk of environmental pollution and farmworker exposure. A promising pesticide waste disposal system is anticipated that is practical for relatively small agricultural operations. Of particular interest is research relating the movement of pesticides into water under various agricultural practices and in a variety of soil types. This special area of research will provide information that will be particularly useful in the decision-making process that will specify conditions under which certain chemicals can be used.

Funding was initially appropriated for this Special Research Grant category in fiscal year 1977. Accomplishments fall in several areas of scientific research. Of particular significance has been the research that contributes to agricultural pest control needs within fifty-three States and Territories in addition to providing the Department with information to make well-founded comments on regulatory issues that impact the use of pest control chemicals in agriculture. Since the inception of this program, approximately nine hundred research projects by State Agricultural Experiment Station scientists have been funded in the areas of human exposure, application technology, waste disposal, environmental fate, economic benefits and pest resistance to pesticides. This research has played an important role in providing data to minimize risk while maintaining the necessary quality and quantity of agricultural products.

Aquaculture. Research being conducted under the fiscal year 1987 grants is directed at providing and improving the scientific and technical base needed by the aquaculture industry. Research grants were awarded on a competitive basis to address disease identification and control in catfish and trout, nutritional requirements of freshwater prawns and channel catfish, and optimization of transport conditions for red drum fingerlings. Additionally, a discretionary grant was awarded to Louisiana State University for studies on the commercial culture of crawfish and red drum. This research will help to reduce losses and improve profitability for producers as aquaculture continues to develop as a major alternative agricultural opportunity.

Funding was initially appropriated for this Special Research Grant category in fiscal year 1981. Accomplishments include the development of better methods to control reproduction in several commercially important aquaculture species including trout, catfish, and sturgeon. Several disease and fish health problems affecting the industry such as IHN virus in trout have been studied as well as methods to improve detection and diagnosis of diseases of catfish, trout, and other salmonids. Techniques for the development of polyploid catfish and trout have been developed in order to genetically improve aquaculture stocks. The effects of dietary lipids on the fatty acid content and flavor of channel catfish have been studied as well as diet formulations for crawfish, trout, and prawns. Research at Louisiana State University has led to improved production efficiency for the commercial culture of crawfish and the commercial propagation of red drum.

Mosquito Research. Mosquito Research being conducted under the fiscal year 1987 grant continues to investigate the basic and applied aspects of riceland mosquito management. The program has significantly expanded its ability to field test these findings under the practical conditions of a mosquito abatement program. The project has produced over 100 technical articles, dissertations, and theses and has significantly impacted rice growing regions since its inception in 1980. The investigations have continued in two principal areas: ecosystem analysis and mosquito management.

Funding was initially appropriated for this Special Research Grant category in fiscal year 1982. Accomplishments include: ecosystem analysis, which has established the development and survival rates of the principal riceland mosquito species, and the age distribution and movement of a relatively new species in California, *Aedes melanimon*. Mark and recapture techniques are being employed to determine the flight range of the principal species, *An. quadrimaculatus* and *Ps. columbia/confinnis* complex studies in key physical factors that affect survival and reproductive behavior are underway, as are studies on genetic variability and structure that will be used to determine the viability of genetic control techniques. Community Biology studies have identified the effectiveness of damselfly nymphs in controlling larvae, and determined the manner in which predators such as mosquitofish and backswimmers detect mosquito larvae. The red imported fire ant has been demonstrated to be an important predator of flood water mosquito populations by egg predation. The effectiveness of spiders is being assessed and are considered to be most effective along the levees. The use of U2 aircraft overflights to identify rice fields of high mosquito potential continues. Reflectance data on over 100 commercial fields is being analyzed. Mosquito management studies centered on the use of mosquito larvicidal fungus, *Lagenidium giganteum*. A biochemical characterization of this organism has been conducted. Field tests of effectiveness have also been conducted with infection rates as high as 85%. Other biological control strategies using bacteria and Notonecta have been completed. IGR-like compounds are also under test for effectiveness, as are several chemical larvicides and adulticides. Environmental Impact Assessment of fungus *L. giganteum* has been completed. The Grand Prairie Municipal Mosquito Abatement Program has been added as a Principal Investigator to provide practical large scale field testing of the basic concepts developed in the program.

Tropical and Subtropical. Research being conducted under fiscal year 1987 grants will be in the following areas: crop modeling; finding profitable new crops; maintaining and increasing soil productivity; marketing of agricultural products; tropical fruit and vegetable production; controlling damaging insects, diseases, and weeds of crop plants; improving the growth of animals; and control of some animal diseases. Some anticipated accomplishments to date are finding a biological control for whiteflies damaging citrus, developing a nucleic acid probe to diagnose bovine anaplasmosis, ways to improve U.S. Caribbean agricultural trade, finding new pasture grasses for beef cattle, finding tomato germplasm resistant to pinworms, biological control of the red coconut scale, finding a control for root rots of beans, developing growth models for intercropping, and finding new areas in Hawaii for growing cocoa. Fiscal year 1983 was the initial year of funding for this Special Research Grant. Some accomplishments to date include developing tomato varieties that yield well under tropical conditions and also are resistant to some diseases, developing wine technology for use in Puerto Rico, finding squash germplasm in the Caribbean that is suitable for Puerto Rico, development of methodology necessary to propagate pineapples by tissue culture, use of drip irrigation for tropical growing conditions, improving the production of taro, and developing better pastures for increased beef production.

Dark-end Syndrome. Funding was initially appropriated for this Special Research Grant in fiscal year 1987. Research conducted during fiscal year 1987 was done as part of a collaborative study by the Idaho, Oregon, and Washington State Agricultural Experiment Stations. Experiments were conducted to determine the stages of plant and tuber development when this crop is most susceptible to water and temperature stress conditions that promote the disorder. Other tests showed that different planting dates and fertilizer amounts also influence the severity of this physiological disorder. Some cultivars were found to be more susceptible than others. The dark-end syndrome disorder is caused by growing conditions that promote high levels of sugars to develop at one end of the potato which upon processing, especially French fries, result in an unacceptable dark color. Fiscal year 1988 funds will be used by these three State Agricultural Experiment Stations to conduct trials to develop recommendations that can be used to make these conditions less likely to occur.

Biocontrol of Grasshoppers. Research being conducted under the fiscal year 1987 grant at the Kansas Agricultural Experiment Station will continue to study the basic biology of the fungus, *Entomophaga grylli*, process of transmission in grasshopper populations, and impact upon the general grasshopper population. The research complements studies in North Dakota, South Dakota, Idaho, and New York. The Kansas study represents the lower rangelands region.

Funding was initially appropriated for this Special Research Grant category in fiscal year 1984. Research accomplishments follow: *Entomophaga grylli* has been found to exist in a protoplast form while the grasshopper is alive. Sectioned tissue samples showed that protoplasts colonize primarily grasshopper fat body during the infection period. At approximately the time of host death, both the fat body as well as other tissues are penetrated by the fungus. Cause of death is attributed mainly to depletion of nutrients, but other factors may be involved. A previously unknown stage of the Entomophaga grylli life cycle designated as the cryptoconidia was discovered. Resting spores were known to transmit the disease, but they took longer than the observed epizootics. This discovery explains the rapid epizootics and horizontal transmission of Entomophaga grylli. More recent research has developed an immunological technique (ELISA) to identify individuals infected with the resting spore stage of the fungus. It is currently being determined whether this assay will also detect later stages of the fungus. Appropriate immunoassays are being developed for all stages of the fungus in order to monitor the course of infection and to relate the degree of infection to specific behavioral changes. Baseline data on normal food consumption and egg laying behavior of three grasshopper species has been determined, and experiments are in progress to determine prelethal effects of the fungus. Experimentation on the effect of temperature and photoperiod on fungus-induced mortality indicate that the incidence of mortality increased under temperatures corresponding to mid-July averages compared to mid-October temperatures. Photoperiod had no effect on grasshopper mortality. Results indicated that environmental conditions can influence the course of infection and helps explain the timing of epizootics in field populations. Future emphasis will focus on humidity and diet interactions.

Wood Utilization Research. Research being conducted under the fiscal year 1987 grant will continue to expand the uses for the target groups of species - Western conifers, Southern pines, and Eastern hardwoods. Three universities are loci for these studies with ten other universities actively engaged. Fiscal year 1987 funding was $2,703,696. The areas of research to be conducted are: Timber Manufacture and Processing; Wood Based Composite Materials; Structural Engineering; Protection and Preservation of Wood; Wood Chemistry; Timber Harvesting and Transport; and Economic Evaluations and Technology Transfer. There are presently eighty-one projects in various stages of completion. The program is providing answers that increase the utility of wood and its competitive position as a material. These studies continue to produce results that are beneficial to consumers, wood products manufacturers, wood loggers, and forest landowners.

Funding was initially appropriated for this Special Research Grant category in fiscal year 1985. Several projects have been completed including one studying veneer clipping that the plywood industry has estimated will result in savings of millions of dollars annually when fully implemented. The researchers who developed this procedure are actively engaged in transferring the technology. Another completed project prioritized harvesting research issues in the South. A third developed means to examine and to control some Polychlorinated Phenols in soils. Safety of loggers using cable logging techniques is another issue examined and improved through a program that analyzes the strength of standing spar trees to ensure load capacity. Structural integrity of wood-framed houses can be improved by selective nailing patterns elucidated through a computer program developed through this research program. Laser cutting of wood has been demonstrated and is included in a large study examining the increased yield from hardwood lumber.

Southwest Consortium For Plant Genetics and Water Resources. This grant was called Plant Stress in fiscal years 1986 and 1987. It is now called Southwest Consortium for Plant Genetics and Water Resources. Research being conducted under the fiscal year 1987 grants will fund a total of 30 investigators at five institutions: New Mexico State University, Los Alamos National Laboratory, Texas Tech University, The University of Arizona, and The University of California at Riverside. Every project involves two or more of the five research institutions. The interdisciplinary nature of the Consortium's program brings together scientists from different disciplines who are conducting plant genetic and water research specifically related to environmental stress - investigating ways plants survive harsh conditions created by heat, insufficient water or poor water quality.

Funding was initially appropriated for this Special Research Grant category in fiscal year 1986. A number of accomplishments have been identified. Researchers at Texas Tech and the University of California at Riverside are working to identify a wheat variety which is drought resistant and more water efficient. Like many of the Consortium projects, this research has both an applied and a basic research component. Isolation and identification of genes responsible for conferring salt tolerance in plants is being done at the University of Arizona and Los Alamos National Laboratory. Using a native desert plant, "ice plant", University of Arizona and New Mexico State University scientists have found a gene regulated, adaptive modification of basic photosynthetic metabolism allowing the plant to be more water efficient and adaptive to salt water stress. Scientists at Los Alamos National Laboratory and New Mexico State University have discovered a polypeptide in jimsonweed, a weed which grows in metal rich mine tailings, which binds metal molecules taken up from soils with high levels of heavy metals. Identification of the gene will facilitate the transfer of heavy metal tolerance to agronomically important plants or plants which could be used to reclaim polluted and contaminated land. Researchers from Los Alamos National Laboratory and New Mexico State University have discovered an unusual event which holds great promise for increasing the efficiency of nitrogen fixation in alfalfa by Rhizobium. A bacterial strain, which is normally pathogenic to non-nitrogen-fixing alfalfa plants, is not only non-pathogenic to nitrogen-fixing alfalfa plants but is, in fact, beneficial. This tri-partite association results in increased nitrogen fixation and increased assimilation of fixed nitrogen by the plant. These scientists are working to understand how the new pathway is activated so they can genetically engineer this trait into commercial varieties of alfalfa, soybeans, peas and lentil, without the the mediation of the pathogenic bacteria.

Prime Farmland Reclamation. Funding was initially appropriated for this Special Research Grant category in fiscal year 1987. Research being conducted under the fiscal year 1987 grants has been initiated with the installation of field and supporting laboratory studies in Illinois and Kentucky. These studies are designed to obtain information on which to base guidelines for effective rebuilding of soils, without root restricting compacted layers, and with a goal to understand the natural and man-caused problems encountered in reclamation. Changes in soil physical, chemical, and biological characteristics are being evaluated and related to crop yields and plant growth responses. The research programs of the two states are being coordinated through joint planning and reporting sessions to maximize the exchange of information among scientists and with the coal industry, which is also sharing in the support of the projects.

Belgian Endive. Funding was initially appropriated for this Special Research Grant category in fiscal year 1987 to the Massachusetts State Agricultural Experiment Station. The Massachusetts State Agricultural Experiment Station contracted with the Connecticut State Agricultural Experiment Station at New Haven to conduct a collaborative research study on Belgian Endive with a portion of the fiscal year 1987 Special Research Grant funds.

Research consisted of variety evaluation, weed control, cultural practices, nitrogen fertilization, storage and forcing studies, in order to better understand the mechanisms controlling growth and quality of this crop. This research will be used to develop recommendations for its successful production, as an alternative horticultural crop, for tobacco soils of the Connecticut River Valley of Massachusetts and Connecticut.

Acid Precipitation. Research being conducted under the fiscal year 1987 grants will:

1. Establish exposure-response relationship for acidic deposition and related gaseous pollutants with the yield of both nationally and regionally important agricultural crops.

2. Develop information on the mechanisms by which air pollution damage occurs in sensitive crop systems to support exposure-response models and to justify extrapolations.

3. Provide data on interactions that will contribute to the information needed to assess effects on a regional scale by determining whether climate, soil type, biotic stresses (such as insects), and other air pollutants influence plant response to acidic deposition.

Funding was initially appropriated for this Special Research Grant category in fiscal year 1983. Accomplishments include findings that reflected emphasis of the fiscal year 1987 program on effects on crops and cropping systems. The results from field investigations have indicated that under typical growing conditions, there are no differences in the response of the major crop plants (soybeans, corn, wheat) exposed to simulated rain with high ambient levels of acidity compared to simulated rain with low levels of acidity. Recent investigations with other crop species such as oat, potato and sorghum have supported the conclusion that acidic rain is not an important direct influence on crop production.

Several studies have demonstrated that stage of development is an important factor affecting plant response to highly acidic rain. Reductions in the numbers of female flowers of cucumber plants and reduced pollen germination in corn occurred as a result of treatment with acidic rain but this was not manifested in an effect on crop yield under normal growing conditions.

Previous work, which indicated that the yields of most crops tested are reduced by ambient levels of ozone (0-3 ppm), was expanded with the testing of additional crops. The results from studies in the Midwest and Southeast indicated that both muskmelon and watermelon are sensitive to ozone at levels within the ambient range, although cultivars varied in their sensitivity.

Results of field studies with soybeans indicate that the effects of ozone on crop yield may be reduced by drought stress. High relative humidity during ozone exposure, however appears to increase ozone damage, as demonstrated in experiments with geranium in which reduced seed set occurred after a 6-hour exposure to 0.30 parts per million (ppm) ozone at 90% relative humidity but not at low humidity.

Several studies were completed to examine the interactive effects on crops of insect and disease organisms with pollutants. Studies with soybean indicated that defoliation by Mexican bean beetle increased significantly with increasing ozone concentration and that larvae tended to weigh more and develop faster when reared on foliage exposed to ozone.

Laboratory and greenhouse studies indicated that highly acidic rain reduced the severity of late blight disease of potato, however, this effect was not observed in field studies using ph 2.8 rain when exposure duration was lower. It is unlikely that ambient levels of acidic rain will prevent late blight disease, although these results suggest that the disease effects are not exacerbated by acidic rain.

Shrimp Aquaculture (under Federal administration). Research conducted under the fiscal year 1987 grant addressed the intensification of production systems, prevention and detection of diseases, seed production, and nutritional requirements for marine shrimp. A commercial prototype production system was developed and performance trials were conducted. Protocols for viral detection in marine shrimp were established.

Funding was initially appropriated for this program in 1985. Intensification trials in a commercial prototype system and in ponds have resulted in some of the highest production densities obtained in this country for marine shrimp. This research has led to a better understanding of the spawning and maturation of marine shrimp resulting in better control of artificial propagation in commercial systems. Work in the area of shrimp diseases has resulted in improvements in the detection of virus infections and a better understanding of the modes of transmission of these infections. Nutritional studies with larval shrimp have resulted in the improvement in the quality and viability of larval shrimp produced under artificial conditions.

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: INTEGRATED PEST MANAGEMENT

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Univ. of Arkansas Agric. Expt. Stn. Fayetteville, AR 72701	W. C. Yearian	87-CRSR-2-3047 8702736	$43,628	09-01-87 08-31-89	Development of Thresholds for Multispecific Insect Infestations on Grain Sorghum	SAES
Univ. of Arizona Tucson, AZ 85721	L. Irene Terry	86-CRSR-2-2927 8702831	$20,000	09-01-86 08-31-88	Combining Western Flower Thrips Apple Management Model with REDAPOL Fruit Set Predictions to Create a Decision Support System	SAES
Univ. of California Berkeley, CA 94720	Steven E. Lindow	86-CRSR-2-2950 8702787	$25,000	09-15-86 09-30-88	Management and Mechanism of Copper Tolerance Among Bacteria on Tree Fruits	Land Grant-1862
Univ. of California Berkeley, CA 94720	Milton N. Schroth	86-CRSR-2-2954 8702786	$11,250	09-15-86 09-30-88	Development of Biological Control Agents for the Early Dying Pest Complex	SAES
Univ. of California Berkeley, CA 94720	Joseph G. Hancock	86-CRSR-2-2951 8702821	$40,000	09-15-86 09-30-88	Chronic Stresses and Yield Impacts on Forage Alfalfa by Pathogens on Roots	Land Grant-1862
Univ. of California Davis CA 95616	Becky B. Westerdahl	86-CRSR-2-2957 8702833	$11,250	09-15-86 09-30-88	Integrated Use of Microbial and Chemical Nematicides for Potatoes in Tulelake	SAES

Univ. of California Davis, CA 95616	Bryce W. Falk	86-CRSR-2-2935 8702796	$30,000	09-01-86 08-31-88	The Etiology and Ecology of Barley Yellow Dwarf Viruses in California Cereals	SAES
Univ. of California Davis, CA 95616	Calvin O. Qualset	85-CRSR-2-2729 8702775	$15,000	09-15-85 09-30-88	Identification of Host Resistance Genes to BYD and Their Transfer to Useful Cultivars of Small Grains, Especially Wheat	SAES
Colorado State Univ. Fort Collins, CO 80523	Monty D. Harrison	87-CRSR-2-3205 8702832	$16,867	09-01-87 08-31-88	Erwinia carotovora subsp. Carotovora in Potato Early Dying and its Interaction with Verticillium dahliae	Land Grant-1862
Colorado State Univ. Fort Collins, CO 80523	Gary A. McIntyre	86-CRSR-2-2937 8702288	$50,000	09-15-86 09-30-88	Western Regional Integrated Pest Management Special Projects Program	Land Grant-1862
Colorado State Univ. Fort Collins, CO 80523	John L. Capinera	87-CRSR-2-3087 8702753	$14,500	06-15-87 06-30-88	Evaluation of Vairimorpha n. sp. as a Biocontrol Agent of Mormon Cricket	SAES
Univ. of Georgia Res. Fdn. Athens, GA 30602	F. W. Nutter, Jr.	87-CRSR-2-3082 8702727	$68,000	09-01-87 08-31-89	Integration of Late Leafspot Control Tactics to Increase "Percent Chance of Profit"	SAES
Univ. of Georgia Res. Fdn. Athens, GA 30602	David C. Bridges	87-CRSR-2-3048 8702725	$56,260	07-01-87 06-30-89	Integration of Management Strategies for Large Crabgrass and Lesser Cornstalk Borer in Grain Sorghum	SAES
Iowa State Univ. of Science & Technology Ames, IA 50011	M. D. McCorcle	87-CRSR-2-3003 8702399	$35,355	07-01-87 06-30-89	Prediction of Pest Distribution in the Corn Belt: A Biometeorological System	Land Grant-1862

Univ. of Idaho Moscow, ID 83843	Guy W. Bishop	85-CRSR-2-2708 8702756	$15,000	07-01-85 06-30-88	Relationships of Aphid Vectors to Barley Yellow Dwarf Virus Spread in Washington and Idaho Cereals	SAES
Univ. of Idaho Moscow, ID 83843	James R. Davis	86-CRSR-2-2958 8702784	$19,000	09-15-86 09-30-88	The Etiology of Premature Death of Potato: The Role of *Colletotrichum coccodes*	SAES
Univ. of Idaho Moscow, ID 83843	Robert H. Callihan	87-CRSR-2-3088 8702758	$16,000	06-15-87 06-30-88	Integration of Biological Stresses for Control of Rush Skeletonweed	SAES
Purdue Res. Fdn. West Lafayette, IN 47907	Eldon E. Ortman	87-CRSR-2-3182 8702788	$11,977	08-01-87 07-31-89	Research Communications	Land Grant-1862
Kansas State Univ. Manhattan, KS 66506	R. L. Vanderlip	87-CRSR-2-3012 8702398	$73,680	05-01-87 04-30-89	Modeling 'Shattercane' and Second Generation European Corn Borer Effects on Corn	Land Grant-1862
Louisiana State Univ. & A&M College Baton Rouge, LA 70803	Ronnie L. Byford	87-CRSR-2-3049 8702735	$65,000	07-01-87 06-30-89	Insecticide Resistance: Characterization and Impact on Horn Fly IPM in the Southern U.S.	SAES
Univ. of Massachusetts Amherst, MA 01003	David N. Ferro	86-CRSR-2-2788 8702211	$5,150	06-01-86 05-31-88	Modeling Mortality Factors of Colorado Potato Beetle	SAES
Univ. of Massachusetts Amherst, MA 01003	David N. Ferro	87-CRSR-2-3004 8702212	$15,065	05-01-87 04-30-88	Integrated Insect Management of Potato in Northeastern United States	SAES
Univ. of Massachusetts Amherst, MA 01003	Stephen J. Herbert	86-CRSR-2-2779 8701549	$22,000	05-15-86 05-31-88	Crop Management, Yield and Stand Persistance Interaction of Alfalfa	SAES

Univ. of Maryland College Park, MD 20742	William O. Lamp	86-CRSR-2-2860 8701550	$22,000	08-01-86 01-31-89	The Effect of Potassium Applications on Pest Management Decisions in Alfalfa	SAES
Univ. of Maine Orono, ME 04469	A. Randall Alford	86-CRSR-2-2759 8702196	$20,000	04-15-86 04-30-88	Effects of Limonin and Related Compounds on Colorado Potato Beetle Larvae	SAES
Michigan State Univ. East Lansing, MI 48824	G. W. Bird	85-CRSR-2-2642 8702870	$15,583	07-01-85 06-30-89	Three Models for Predicting Potato Plant Growth and Tuber Yield in North Central Potato Systems	SAES
Univ. of Minnesota St. Paul, MN 55108	Roger D. Moon	87-CRSR-2-3016 8702400	$85,000	07-01-87 06-30-89	Integrated Pest Management in Beef Cow-Calf Production Systems	SAES
Univ. of Minnesota St. Paul, MN 55108	David A. Andow	87-CRSR-2-3015 8702401	$158,000	06-01-87 05-31-89	Multispecies Pest Interactions, Cultural Environments, and Models for Corn Management	SAES
Univ. of Minnesota St. Paul, MN 55108	E. B. Radcliffe	87-CRSR-2-3014 8702402	$46,336	05-01-87 04-30-89	Multiple Pest, Water, Nitrogen Interaction with Potato Yield	SAES
Univ. of Minnesota St. Paul, MN 55104	Kenneth B. Johnson	85-CRSR-2-2679 8702790	$16,077	06-01-85 05-31-89	Evaluation of Three Potato to Crop-Pest Models	Land Grant-1862
Montana State Univ. Bozeman, MT 59717	Thomas W. Carroll	85-CRSR-2-2645 8702774	$14,000	06-01-85 08-31-88	Barley Yellow Dwarf Virus Isolates Vectored by Corn Leaf Aphids	SAES
Montana State Univ. Bozeman, MT 59717	Carl L. Wambolt	87-CRSR-2-3089 8702760	$9,500	06-15-87 06-30-88	High Stocking Rate Potential for Controlling Big Sagebrush	SAES

Montana State Univ. Bozeman, MT 59717	J. Wayne Brewer	87-CRSR-2-3139 8702770	$9,500	07-01-87 06-30-88	Coleoptera as Vectors of *Sclerotinia* sp. Fungus to Control *Canada Thistle*	SAES
North Carolina Agric. Res. Service North Carolina State Univ. Raleigh, NC 27695-7601	Harold D. Coble	87-CRSR-2-3064 8702737	$67,000	06-15-87 06-30-89	Development and Implementation of Economic Thresholds for Weeds in Cotton	SAES
North Carolina Agric. Res. Service North Carolina State Univ. Raleigh, NC 27695-7601	John R. Meyer	85-CRSR-2-2571 8702734	$70,000	09-01-85 08-31-89	Gound Cover in Peach Orchards as Related to Biotic and Abiotic Interactions	SAES
North Carolina Agric. Res. Serv. North Carolina State Univ. Raleigh, NC 27695-7601	K. R. Barker	87-CRSR-2-3063 8702733	$67,000	09-01-87 08-31-89	Quantification and Modeling of Soybean Responses and Interaction with *Heterodera glycines*	SAES
Agric. Expt. Stn. North Dakota State Univ. Fargo, ND 58105	Donald C. Nelson	85-CRSR-2-2712 8702777	$8,532	07-01-85 06-30-88	Validation of Three Models for Predicting Potato Plant Growth and Tuber Yield	SAES
Univ. of Nebraska Lincoln, NE 68588-0430	T. O. Holtzer	87-CRSR-2-3011 8702403	$80,748	06-01-87 05-31-89	European Corn Borer Tunneling, Stalk Rot, Water Stress, and Corn Plant Physiology	SAES
Agric. Expt. Stn. Rutgers Univ. New Brunswick, NJ 08903	Fred C. Swift	87-CRSR-2-2991 8702043	$29,402	05-01-87 04-30-89	Phytoseiid Mites as Predators on European Red Mite on Apples	SAES

New Mexico State Univ. Las Cruces, NM 88003	Kirk C. McDaniel	87-CRSR-2-3189 8702795	$9,500	08-01-87 07-31-89	Integrated Pest Management for Economical Control of Broom Snakeweed	SAES
Univ. of Nevada Reno, NV 89557-0025	Robin J. Tausch	86-CRSR-2-2928 8702773	$20,000	09-01-86 08-31-88	Control of Cheatgrass on Western Nevada Rangelands by Simulated Grazing Management	SAES
Cornell Univ. Ithaca, NY 14853	Jan P. Nyrop	87-CRSR-2-3005 8702042	$20,460	05-01-87 04-30-89	Development and Validation of Management Decision Rules for European Red Mite	SAES
Cornell Univ. Ithaca, NY 14853-2801	Gary W. Fick	85-CRSR-2-2723 8701551	$18,000	09-15-85 09-30-88	Conceptual Models of Pest Effects on Alfalfa for the Northeast	SAES
Cornell Univ. Ithaca, NY 14853	Edward J. Bechinski	87-CRSR-2-2994 8701544	$15,000	06-01-87 05-31-88	Bioeconomics and Management of Interactions Between the Potato Leafhopper and *Leptosphaerulina* Leaf Spot on Alfalfa	Land Grant-1862
Cornell Univ. Ithaca, NY 14853	Elson J. Shields	87-CRSR-2-2993 8701545	$14,000	06-01-87 05-31-88	Predicting Potato Leafhopper Migration: The Starting Point for Alfalfa IPM Strategies	SAES
Cornell Univ. Ithaca, NY 14853	W. F. Wilcox	87-CRSR-2-2992 8702045	$56,393	05-01-87 04-30-90	*Trichoderma* spp. and Rootstock Resistance as Components of IPM for Apple Crown Rot	SAES
Cornell Univ. Ithaca, NY 14853	Robin R. Bellinder	86-CRSR-2-2783 8702199	$10,000	05-15-86 05-31-88	Integrated Production Management System for Irish Potatoes	SAES
Cornell Univ. Ithaca, NY 14853	William E. Fry	87-CRSR-2-3007 8702197	$20,000	07-01-87 06-30-88	Optimal Fungicide Use on Potato Plants	SAES

Cornell Univ. Ithaca, NY 14853	C. A. Shoemaker	86-CRSR-2-2778 8702198	$20,000	07-01-86 06-30-88	An Integrated Approach to Management of Several Potato Pests: Simulation and Optimization Modelling	Land Grant-1862
Cornell Univ. Ithaca, NY 14853	Catherine A. Tauber	87-CRSR-2-2998 8702200	$10,000	06-01-87 05-31-88	Phenological Effects of Potato Cultivars on Colorado Potato Beetle	SAES
Cornell Univ. Ithaca, NY 14853	Maurice J. Tauber	87-CRSR-2-3009 8702201	$20,000	06-01-87 05-31-88	Pesticide Resistance in Colorado Potato Beetle: Genetics and Detection	SAES
Cornell Univ. Ithaca, NY 14853	Elmer E. Ewing	86-CRSR-2-2791 8702202	$20,000	07-01-86 06-30-88	Employing Pest Defoliation Models for Potato IPM	SAES
Cornell Univ. Ithaca, NY 14853	Rosemary Loria	85-CRSR-2-2680 8702203	$19,000	06-01-85 05-31-88	Common Scab of Potato: Effects of Cultivar Resistance and Inoculum Source	Land Grant-1862
Ohio State Univ. Res. Fdn. Columbus, OH 43212-1194	Randall C. Rowe	87-CRSR-2-3017 8702405	$80,000	06-01-87 05-31-89	Validation and Extension of Models that Predict Yield Loss Due to Potato Early Dying	SAES
Agric. Expt. Stn. Oklahoma State Univ. Stillwater, OK 74078-0500	Russell E. Wright	87-CRSR-2-3065 8702732	$63,000	09-01-87 08-31-89	Annual Cumulative Effect of Blood Sucking Arthopods on Beef Cattle Production	SAES
Oregon State Univ. Corvallis, OR 97331	Larry L. Larson	86-CRSR-2-2952 8702772	$15,500	09-15-86 09-30-88	Economic Impact of Whitetop (Cardaria spp.) on the Sagebrush Ecosystem of Eastern Oregon	SAES
Oregon State Univ. Corvallis, OR 97331	Peter Westigard	87-CRSR-2-3190 8702798	$10,000	08-01-87 07-31-88	Immigration of Tetranychus urticae Koch from Orchard Ground Cover into Pear	SAES

Oregon State Univ. Corvallis, OR 97331	Mary L. Powelson	86-CRSR-2-2960 8702822	$17,000	09-15-86 09-30-88	Interactions Between Meloidogyne chitwoodi and Verticillium dahliae in the Early Dying Disease of Potatoes	SAES
Oregon State Univ. Corvallis, OR 97331	Mary L. Powelson	87-CRSR-2-3215 8702863	$16,868	09-15-87 09-30-88	Erwinia carotovora subsp. carotovora in Potato Early Dying and its Interaction with Verticillium dahliae	SAES
Oregon State Univ. Corvallis, OR 97331	Brian A. Croft	87-CRSR-2-3167 8702782	$25,000	07-15-87 07-31-88	Comparative Immigration and Colonization of Apple by Predaceous Mites	Land Grant-1862
Oregon State Univ. Corvallis, OR 97331	Richard W. Smiley	87-CRSR-2-3165 8702776	$17,000	07-15-87 08-31-88	Rhizoctonia Root Rot of Cereals in Conservation Tillage Systems	SAES
Pennsylvania State Univ. University Park, PA 16802	Zane Smilowitz	85-CRSR-2-2683 8702486	$18,000	07-01-85 06-30-88	Potato Plant Response to Insect Feeding and Abiotic Stresses	SAES
Pennsylvania State Univ. University Park, PA 16802	Felix L. Lukezic	85-CRSR-2-2714 8701552	$21,000	07-01-85 06-30-88	Biological Control of Forage Legume Leaf Diseases	SAES
Pennsylvania State Univ. University Park, PA 16802	Arthur A. Hower	85-CRSR-2-2715 8701553	$24,000	07-01-85 09-30-89	Effect of Clover Root Curculio-Root Pathogen Interaction on Alfalfa Rhizosphere Dynamics	SAES
Pennsylvania State Univ. University Park, PA 16802	Larry A. Hull	87-CRSR-2-2995 8702044	$21,000	07-01-87 06-30-88	Monitoring Patterns of Azinphosmethyl Resistance in Adult Platynota Idaeusalis	SAES

Pennsylvania State Univ. University Park, PA 16802	Ke Chung Kim	86-CRSR-2-2780 8701546	$15,000	07-01-86 06-30-88	Genetic and Taxonomic Distance of Host-Associated Populations of Microtonus Aethiopoides (Braconidae: Hymenoptera)	Land Grant-1862
Clemson Univ. Clemson, SC 29634	Michael R. Strand	87-CRSR-2-3066 8702726	$68,000	08-01-87 07-31-89	Enhanced Biological Control in Soybean: Influence of Pest Niche on Parasitism	SAES
Clemson Univ. Clemson, SC 29634	J. D. Mueller	87-CRSR-2-3050 8702731	$67,000	07-01-87 08-31-89	Response of Cotton to Hoplolaimus columbus Populations from North and South Carolina	SAES
Agri. Expt. Stn. Texas A&M Univ. College Station, TX 77843	James R. Cate	87-CRSR-2-3051 8702728	$66,805	07-01-87 06-30-89	Ecological and Genetic Variation in Diapause in Anthonomus grandis	SAES
Utah State Univ. Logan, UT 84322-1445	Ting H. Hsiao	85-CRSR-2-2693 8702754	$24,000	06-15-85 12-31-88	Field Hybridization of Alfalfa Weevil Stains: Biological and Ecological Evaluations	SAES
Utah State Univ. Logan, UT 84322-5305	Vincent P. Jones	87-CRSR-2-3186 8702785	$40,000	07-15-87 07-31-88	Pesticide Resistance in Codling Moth, Pandemis Leafroller and Western Tentiform Leafminer	Land Grant-1862
Virginia Polytechnic Inst. & State Univ. Blacksburg, VA 24061	E. C. Turner, Jr.	87-CRSR-2-3058 8702729	$67,000	07-01-87 06-30-89	Introduction of Ophyra aenescens in Livestock IPM Programs against House Flies	SAES
Virginia Polytechnic Inst. & State Univ. Agric. Expt. Stn. Blacksburg, VA 24061	Thomas L. Payne	87-CRSR-2-3067 8702730	$68,000	09-01-87 08-31-89	Use of Behavioral Chemicals and Host Tree Cutting in Southern Pine Beetle IPM	SAES

Univ. of Vermont & State Agricultural College Burlington, VT 05405	Alan R. Gotlieb	85-CRSR-2-2648 8701548	$30,229	06-01-85 12-31-89	Alfalfa Performance as Influenced by the Interactions of Mechanical Wounding, Climate, *Sitona hispidula* Populations, and *Fusarium* Root Rot	SAES
Univ. of Vermont Burlington, VT 05405	G. B. MacCollom	87-CRSR-2-3008 8702041	$56,973	05-01-87 04-30-90	Odor Enhancement of Traps for Adult Apple Maggot *Rhagoletis pomonella*	SAES
Washington State Univ. Pullman, WA 99164-6430	Dennis C. Gross	87-CRSR-2-3143 8702771	$28,000	07-01-87 06-30-88	Biological Systems to Control Pathogens Involved in Early Dying of Potatoes	Land Grant-1862
Washington State Univ. Pullman, WA 99164	Keith S. Pike	85-CRSR-2-2704 8702755	$15,000	07-01-85 06-30-88	Relationships of Aphid Vectors to BYDV Spread in Washington and Idaho Cereals	SAES
Washington State Univ. Pullman, WA 99164-5045	Gerald S. Santo	86-CRSR-2-2953 8702759	$16,000	09-15-86 09-30-88	Relationship of Root-Knot and Root-Lesion Nematodes to Early Dying on Potato	SAES
Washington State Univ. Pullman, WA 99164-6430	Stephen D. Wyatt	85-CRSR-2-2684 8702797	$14,000	07-01-85 06-30-89	Barley Yellow Dwarf Monoclonal Antibody Production	SAES
Univ. of Wisconsin Madison, WI 53706	Douglas I. Rouse	85-CRSR-2-2650 8702825	$16,218	06-01-85 05-31-89	Evaluation of Three Models for Predicting Potato Plant Growth and Tuber Yield in Potato Systems	Land Grant-1862
Univ. of Wisconsin Madison, WI 53706	Walter R. Stevenson	87-CRSR-2-3013 8702404	$120,000	05-01-87 04-30-89	Integrated Crop Management of Potatoes	SAES

West Virginia Univ. Morgantown, WV 26506	Joseph E. Weaver	86-CRSR-2-2781 8701547	$10,000	05-15-86 05-31-88	Alfalfa Weevil Larval Densities in Relation to Yield and Quality of Alfalfa	Land Grant-1862
Univ. of Wyoming Laramie, WY 82071	Michael A. Smith	86-CRSR-2-2936 8702757	$11,000	09-01-86 08-31-88	Economic Threshold Levels of Big Sagebrush Control	SAES
Univ. of Wyoming Laramie, WY 82071	F. A. Gray	85-CRSR-2-2705 8702783	$40,000	07-01-85 06-30-88	The Interaction of Northern Root-knot Nematode and Phytophthora Root Rot in Alfalfa	SAES
Univ. of Wyoming Laramie, WY 82071	David A. Koch	87-CRSR-2-3213 8702860	$14,514	09-15-87 09-30-88	Integrated Control of Leafy Spurge with Herbicides and Grass Competition	SAES

TOTAL $2,787,120

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: RURAL DEVELOPMENT CENTERS

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Agric. & Home Economics Expt. Stn. Iowa State Univ. Ames, IA 50011	Peter F. Korsching	87-CRSR-2-3192 8702792	$86,031	09-01-87 11-30-89	North Central Regional Center for Rural Development	SAES
MS Agricultural & Forestry Expt. Stn. Mississippi State Univ. Miss. State, MS 39762	H. Doss Brodnax, Jr.	86-CRSR-2-2777 8700958	$86,031	06-01-86 12-31-88	Southern Rural Development Center	SAES
Oregon State Univ. Corvallis, OR 97331	Russell C. Youmans	86-CRSR-2-2761 8702476	$86,031	09-15-86 09-30-88	Western Rural Development Center	Land Grant-1862
Pennsylvania State Univ. University Park, PA 16802	Daryl K. Heasley	86-CRSR-2-2760 8702295	$86,031	06-01-86 05-31-89	Northeast Regional Center for Rural Development	Land Grant-1862

TOTAL $344,124

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: ANIMAL HEALTH RESEARCH

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Univ. of Arizona Tucson, AZ 85721	Lynn A. Joens	87-CRSR-2-3094 8702018	$145,374	08-01-87 07-31-90	Porcine Proliferative Entertis: A Synergistic Disease	SAES
Univ. of Arizona Tucson, AZ 85721	J. Glenn Songer	87-CRSR-2-3118 8701574	$90,375	09-15-87 09-30-89	Role of Phospholipase D in Pathogenesis of *Corynebacterium pseudotuberculosis* Infection	SAES
Univ. of California Davis, CA 95616	Richard Yamamoto	87-CRSR-2-3101 8702141	$108,794	07-01-87 06-30-89	Species and Strain-specific Recombinant DNA Probes for *Mycoplasma gallisepticum*	Vet School/College
Univ. of California Davis, CA 95616	Mark C. Thurmond	87-CRSR-2-3097 8701788	$84,087	07-01-87 06-30-89	Humoral Recognition of Gram Negative Core Antigens in Neonatal Calves	Vet School/College
Univ. of California Davis, CA 95616	James S. Cullor	87-CRSR-2-3095 8701779	$123,451	07-01-87 06-30-89	Bovine Defensins: Natural Antibiotics Against Mastitis Pathogens	Vet School/College
Univ. of California Davis, CA 95616	Bennie I. Osburn	87-CRSR-2-3096 8701784	$148,082	07-01-87 06-30-89	Modulatory Effects of Cimetidine on the Bovine Immune System and *Salmonella* Carrier State	Vet School/College

Univ. of California Davis, CA 95616	Bradford P. Smith	87-CRSR-2-3175 8701781	$110,935	08-01-87 07-31-89	Milk ELISA to Detect Salmonella dublin Carrier Cows	SAES
Univ. of California-San Diego La Jolla, CA 92093	Lynette B. Corbeil	87-CRSR-2-3077 8701726	$150,000	09-01-87 08-31-90	Haemophilus somnus Reproductive Infections: Diagnois and Immunity	Land Grant-1862
Colorado State Univ. Fort Collins, CO 80523	Daniel H. Gould	87-CRSR-2-3208 8701826	$134,955	09-15-87 09-30-89	Dietary Factors Governing the Expression of Polioencephalomalacia in Cattle	Land Grant-1862
Univ. of Georgia Res. Fdn. Athens, GA 30602	Vicki S. Blazer	87-CRSR-2-3040 8701592	$28,167*	07-01-87 06-30-89	Dietary Lipid and Disease Resistance in Channel Catfish	SAES
Univ. of Georgia Res. Fdn. Athens, GA 30602	William L. Ragland	87-CRSR-2-3119 8702119	$41,874	07-01-87 06-30-90	Immunomodulation of Chickens with Nonionic Block Polymers	Vet School/College
Univ. of Georgia Res. Fdn. Athens, GA 30602	Debra D. Morris	87-CRSR-2-3144 8701900	$57,984	07-01-87 06-30-89	Endotoxemia in Equine Colic: Therapy Using a Platelet Activating Factor - Receptor Antagonist	Vet School/College
Iowa State Univ. of Science & Technology Ames, IA 50011	Charles O. Thoen	87-CRSR-2-3146 8701787	$111,300	07-01-87 06-30-89	Johne's Disease: Production of Antigens for Use in Diagnostic Tests	Vet School/College
Iowa State Univ. of Science & Technology Ames, IA 50011	Prem S. Paul	87-CRSR-2-3209 8702093	$103,869	09-15-87 09-30-90	Characterization of Immunogens in Transmissible Gastroenteritis Virus of Swine	Vet School/College

*Split-funded with Aquaculture Research for a total amount of $47,810.

Iowa State Univ. of Science & Technology Ames, IA 50011	Kenneth B. Platt	87-CRSR-2-3103 8702090	$96,457	07-01-87 06-30-89	Pseudorabies Detection in Vaccinated Pigs by Antiidiotypic Monoclonal Antibodies	Vet School/College
Iowa State Univ. of Science & Technology Ames, IA 50011	James A. Roth	87-CRSR-2-3120 8701746	$149,459	07-01-87 06-30-89	Immunosuppression and Immunomodulation in BVD Virus Infection	Vet School/College
Univ. of Illinois Champaign, IL 61820	Deoki N. Tripathy	87-CRSR-2-3102 8701590	$141,961	09-01-87 08-31-89	Molecular Markers of Laryngotracheitis Viruses of Variable Respiratory Virulence	Vet School/College
Univ. of Illinois Urbana, IL 61801	J. A. Shadduck	87-CRSR-2-3099 8702027	$148,034	09-01-87 08-31-90	Porcine Pulmonary Injury Due to Neutrophils	Vet School/College
Purdue Res. Fdn. West Lafayette, IN 47907	Judith N. Nielsen	87-CRSR-2-3145 8702011	$149,854	07-01-87 06-30-90	Development of a DNA Probe for Diagnosis of Leptospiral Infection	SAES
Kansas State Univ. Manhattan, KS 66506	Bradley W. Fenwick	87-CRSR-2-3121 8702099	$127,818	09-15-87 09-30-89	Development of a Subunit Vaccine for *Haemophilus pleuropneumoniae*	Vet School/College
Kansas State Univ. Manhattan, KS 66506	Harish C. Minocha	87-CRSR-2-3195 8701761	$89,418	08-15-87 08-31-90	Anti-Idiotypes of Bovine Respiratory Disease Viruses: Vaccine Feasibility Studies	SAES
Univ. of Missouri Columbia, MO 65211	Carl A. Pinkert	87-CRSR-2-3147 8702034	$137,954	09-01-87 08-31-89	Infectious Disease Resistance in Transgenic Pigs: A Pilot Project	SAES
Montana State Univ. Bozeman, MT 59717	C. A. Speer	87-CRSR-2-3148 8701939	$135,418	09-15-87 09-30-90	Characterization of Functional Epitopes Against Bovine Coccidiosis	SAES

Agric. Res. Div. Univ. of Nebraska Lincoln, NE 68583-0704	Gary A. Anderson	87-CRSR-2-3156 8701743	$96,175	09-01-87 08-31-89	Bovine Respiratory Syncytial Virus: Subunit Vaccine, Immunity, and Rapid Diagnosis	SAES
Cornell Univ. Ithaca, NY 14853	Francis A. Kallfelz	87-CRSR-2-3122 8701689	$144,142	07-01-87 06-30-89	Vitamin D Metabolites in Bovine Parturient Hypocalcemia	Vet School/College
Cornell Univ. Ithaca, NY 14853	Alexander J. Winter	87-CRSR-2-3078 8701703	$128,495	07-01-87 06-30-90	A Simple Assay for Screening Efficacy of *Brucella abortus* Vaccines in Cattle	Vet School/College
Ohio State Univ. Res. Fdn. Columbus, OH 43212	Y. M. Saif	87-CRSR-2-3104 8702105	$147,983	07-01-87 06-30-90	Monoclonal Antibodies and Viral Proteins of Infectious Bursal Disease Virus	SAES
Ohio State Univ. Res. Fdn. Columbus, OH 43212	Yasuko Rikihisa	87-CRSR-2-3196 8701915	$104,266	09-15-87 09-30-89	Development of a Vaccine for Potomac Horse Fever	Land Grant-1862
Oregon State Univ. Corvallis, OR 97331	Alvin W. Smith	87-CRSR-2-3166 8701891	$30,042	07-15-87 07-31-88	Recombinant Vaccine for Ovine Footrot	SAES
Oregon State Univ. Corvallis, OR 97331	Masakazu Matsumoto	87-CRSR-2-3123 8702134	$58,000	08-01-87 07-31-89	Secretory Antibody Response and *Pasteurella multocida* Vaccine	Vet School/College
Univ. of Pennsylvania Philadelphia, PA 19104	Linda H. Keller	87-CRSR-2-3105 8702117	$129,472	07-01-87 06-30-89	Avian T Cell Subset Markers as a Probe of the Immune Response to Marek's Disease	Vet School/College

Pennsylvania State Univ. University Park, PA 16802	R. W. Scholz	87-CRSR-2-3171 8701803	$51,621	09-15-87 09-30-88	Selenium Effects on the Arachidonic Acid Cascade in the Pathogenesis of Escherichia coli Mastitis in Dairy Cows	SAES
Pennsylvania State Univ. University Park, PA 16802	Richard A. Wilson	87-CRSR-2-3124 8701777	$145,844	09-01-87 08-31-89	Phenotype and Functions of T-Lymphocytes and Lymphokines Isolated from Bovine Mammary Gland Secretion	SAES
South Dakota State Univ. Brookings, SD 57007	David A. Benfield	85-CRSR-2-2592 8702033	$71,975	09-15-85 09-30-89	Role of Cellular Receptors in the Pathogenesis of Rotavirus and Transmissible Gastroenteritis	SAES
Agricultural Expt. Stn. Univ. of Tennessee Knoxville, TN 37901	Michael A. Breider	87-CRSR-2-3125 8701732	$146,616	09-15-87 09-30-90	Effects of Pasteurella haemolytica Pathogenic Factors in Bovine Pulmonary Endothelium	SAES
Texas A&M Res. Fdn. College Station, TX 77843	James E. Womack	87-CRSR-2-3126 8701755	$150,000	09-01-87 08-31-90	Molecular Genetics of Interferons and Resistance to Bovine Respiratory Disease	Land Grant-1862
Texas A&M Res. Fdn. College Station, TX 77843	J. W. Templeton	87-CRSR-2-3157 8701683	$74,372	09-01-87 08-31-89	Genetic Control of Macrophage Function in Bovine Brucellosis	Vet School/College
Washington State Univ. Pullman, WA 99164	Raymond Reeves	87-CRSR-2-3149 8701763	$150,000	09-01-87 08-31-90	Recombinant Bovine IL-2 Enhancement of Bovine Immunity	Land Grant-1862
Washington State Univ. Pullman, WA 99164	Jerry J. Reeves	87-CRSR-2-3073 8701821	$149,972	09-01-87 08-31-90	Endocrine Control of Lactational Anestrus in Beef Cows	SAES

Washington State Univ. Pullman, WA 99164-5045	Sandra S. Ristow	87-CRSR-2-3039 8701842	$80,000	09-01-87 02-28-89	A Battery of Monoclonal Antibodies to Detect Infectious Hematopoietic Necrosis Virus	Vet School/College
Univ. of Wisconsin Madison, WI 53706	W. L. Castleman	87-CRSR-2-3127 8701737	$150,000	09-15-87 09-30-89	Effects of 4-Ipomeanol on Bovine Viral and Bacterial Pneumonia	Vet School/College
Univ. of Wisconsin Madison, WI 53706	Kevin T. Schultz	87-CRSR-2-3172 8701559	$150,000	08-01-87 07-31-90	Molecular Characterization of the Bluetongue Neutralizing Antigen	Vet School/College
Univ. of Wisconsin Madison, WI 53706	Gary A. Splitter	87-CRSR-2-3128 8701757	$150,000	09-15-87 09-30-89	Effector Cell Recognition of BHV-1 Glycoproteins Coded by Transfected Genes	SAES
Univ. of Wisconsin Madison, WI 53706	Virginia S. Hinshaw	87-CRSR-2-3159 8702110	$75,000	09-01-87 08-31-90	Tissue Tropism of Virulent Avian Influenza A Viruses	Vet School/College
Univ. of Wisconsin Madison, WI 53706	Oliver J. Ginther	87-CRSR-2-3158 8701697	$150,000	09-15-87 09-30-90	Early Embryonic Loss in Heifers	SAES
West Virginia Univ. Morgantown, WV 26506	E. Keith Inskeep	87-CRSR-2-3074 8701701	$113,853	09-15-87 09-30-90	Roles of LH and Uterine Luteolysins in Luteal Function in Anestrous Cows	SAES
Univ. of Wyoming Laramie, WY 82071	John A. Ellis	87-CRSR-2-3079 8701694	$144,892	09-15-87 09-30-90	Dynamics of Host-Virus Interaction in Bluetongue: Host Specific Immune Responses	SAES

TOTAL $5,408,340

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: PESTICIDE CLEARANCE

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Univ. of California Davis, CA 95616	James N. Seiber	84-CRSR-2-2341 8700941	$259,562	03-01-84 02-29-88	Minor Use Pesticide Research -- Western Region IR-4	SAES
Univ. of Florida Gainesville, FL 32611	Willis B. Wheeler	84-CRSR-2-2342 8700940	$259,562	02-01-84 09-30-88	Southern Region Leader Laboratory Cooperative Research for Minor Use Pesticides and Biologicals Registrations	SAES
Michigan State Univ. East Lansing, MI 48824	Fumio Matsumura	84-CRSR-2-2346 8700943	$259,562	02-15-84 06-30-88	North Central Leader Laboratory Program for Minor Use Pesticide Research to Supplement the IR-4 Program	SAES
Agric. Expt. Stn. Rutgers Univ. New Brunswick, NJ 08903	Robert H. Kupelian	87-CRSR-2-2982 8700002	$259,562	03-01-87 02-28-90	A National Agricultural Program: Clearance of Chemicals and Biologics for Minor or Special Uses/Pesticides	SAES
Cornell Univ. Ithaca, NY 14853	John B. Bourke	87-CRSR-2-2983 8700279	$259,564	03-01-87 09-30-88	NE Regional Laboratory for Analysis of Pesticides and Biologics for Minor or Special Uses	SAES

TOTAL $1,297,812

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: MINOR USE ANIMAL DRUGS

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Univ. of California Davis, CA 95616	James N. Seiber	86-CRSR-2-2749 8700936	$43,418	05-01-86 10-31-88	Minor Use Animal Drug Research-Western Region IR-4	SAES
Univ. of Florida Gainesville, FL 32611	S. F. Sundlof	86-CRSR-2-2750 8702052	$43,420	04-01-86 03-31-88	Southern Region Leader Laboratory Cooperative Research for Minor or Specialty use Animal Drugs	Vet School/College
Michigan State Univ. East Lansing, MI 48824	F. Matsumura	86-CRSR-2-2747 8700944	$43,418	05-01-86 04-30-88	North Central Leader Laboratory Program for Minor Use Drug Research to Supplement the IR-4 Program	SAES
Agric. Expt. Stn. Rutgers Univ. New Brunswick, NJ 08903	Robert H. Kupelian	87-CRSR-2-2974 8700003	$43,418	02-15-87 02-28-89	A National Agricultural Program: Clearance of Chemicals and Biologics for Minor or Special Uses/Animal Drugs	SAES
Cornell Univ. Ithaca, NY 14853	John B. Bourke	87-CRSR-2-2975 8700952	$43,418	03-01-87 09-30-88	Northeast Regional Laboratory for Analysis of Animal Drugs for Minor Uses	SAES

TOTAL $217,092

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: PESTICIDE IMPACT ASSESSMENT

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Univ. of Alaska Agric. & Forestry Expt. Stn. Fairbanks, AK 99701	Donald E. Carling	84-CRSR-2-2424 8702453	$5,000	06-15-84 06-30-88	In Vitro Sensitivity of Rhizoctonia Sp. to Selected Fungicides	SAES
Auburn Univ. Auburn Univ., AL 36849	Robert H. Walker	84-CRSR-2-2380 8702437	$8,381	06-01-84 05-31-88	National Agricultural Pesticide Impact Assessment Program	SAES
Univ. of Arkansas Agric. Expt. Stn. Fayetteville, AR 72701	Robert E. Frans	87-CRSR-2-3091 8702412	$12,860	06-15-87 06-30-88	Pesticide Impact Assessment Research and Data Analyses for Arkansas, 1987	SAES
Agric. Expt. Stn. Univ. of Arizona Tucson, AZ 85721	Paul B. Baker	87-CRSR-2-3174 8702413	$7,066	09-01-87 08-31-88	Collection and Analysis of Information Relative to the Use of Pesticides	SAES
Univ. of California Berkeley, CA 94720	Harold G. Alford	87-CRSR-2-2976 8700945	$335,166	02-15-87 11-30-88	Western Region Agricultural Pesticide Impact Assessment Program	SAES
Univ. of California Berkeley, CA 94720	Harold G. Alford	87-CRSR-2-3198 8702778	$29,215	09-01-87 02-28-89	Determining the Impact of Recently Enacted Legislation on Pesticide Use in California Agriculture	Land Grant-1862

Colorado State Univ. Agric. Expt. Stn. Fort Collins, CO 80523	Frank B. Peairs	87-CRSR-2-3086 8702435	$7,044	06-01-87 11-30-88	Impact of Russian Wheat Aphid on Small Grains in Colorado	SAES
Connecticut Agric. Expt. Stn. New Haven, CT 06504	Charles R. Frink	86-CRSR-2-2956 8702456	$5,638	09-15-86 09-30-88	Persistence of Pesticides in Ground Water in Connecticut	SAES
Agric. Expt. Stn. Univ. of Delaware Newark, DE 19717-1303	Dewey M. Caron	87-CRSR-2-3069 8702421	$5,000	07-01-87 09-30-88	Pesticide Impact Assessment and Data Analysis	SAES
Univ. of Florida Gainesville, FL 32611	L. T. Ou	85-CRSR-2-2552 8702434	$14,540	05-01-85 12-31-88	Microbial Degradation of Phenamiphos and Telone II in Contaminated Soils	SAES
Univ. of Georgia Res. Fdn. Athens, GA 30602	James W. Todd	87-CRSR-2-3160 8702443	$15,860	07-01-87 06-30-88	Seasonal Population Dynamics of Thrips in Peanut after Application of Aldicarb at Planting	SAES
Univ. of Georgia Res. Fdn. Boyd Graduate Studies Research Center Athens, GA 30602	James W. Todd	87-CRSR-2-2978 8700949	$335,166	02-01-87 01-31-89	Southern Region State Agricultural Experiment Station Special Studies for Pesticide Impact Assessments	SAES
Agric. Expt. Stn. Univ. of Guam Mangilao, GU 96923	Claron D. Bjork	86-CRSR-2-2772 8702466	$5,000	05-01-86 04-30-88	Control of New Pests on Guam with Pesticides	SAES

Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	John W. Hylin	87-CRSR-2-3025 8702391	$5,645	05-01-87 04-30-88	Pesticide Impact Assessment and Data Analysis	SAES
Iowa State Univ. of Science & Technology Iowa Agricultural & Home Economics Expt. Stn. Ames, IA 50011	Paul A. Dahm	87-CRSR-2-3020 8702291	$21,787	05-01-87 04-30-88	Iowa's Contribution, National Agricultural Pesticide Impact Assessment Program (NAPIAP)	SAES
Univ. of Idaho Moscow, ID 83843	Gene P. Carpenter	87-CRSR-2-3092 8702420	$7,367	09-15-87 09-30-88	Idaho's Pesticide Impact Assessment Program	SAES
Agric. Expt. Stn. Univ. of Illinois Urbana, IL 61801	Benjamin Jones, Jr.	87-CRSR-2-3177 8702441	$22,413	09-01-87 08-31-89	Pesticide Impact Assessment Research and Data Analysis	SAES
Purdue Univ. West Lafayette, IN 47907	Thomas N. Jordan	84-CRSR-2-2382 8702394	$12,771	06-01-84 06-30-88	Pesticide Use Under National Pesticide Assessment Program	SAES
Kansas State Univ. Manhattan, KS 66506	David L. Hensley	86-CRSR-2-2775 8702446	$11,216	09-15-86 09-30-88	Pesticide Effect on Nitrogen Fixation in Legumes	SAES
Agric. Expt. Stn. Univ. of Kentucky Lexington, KY 40546	Bobby C. Pass	87-CRSR-2-3018 8702292	$6,824	05-01-87 04-30-88	Pesticide Impact Research and Data Analysis	SAES

Louisiana State Univ. & A&M College Baton Rouge, LA 70893	Jerry B. Graves	84-CRSR-2-2355 8702392	$9,533	09-01-84 08-31-88	Pesticide Impact Assessment Research and Data Analysis	SAES
Univ. of Massachusetts Amherst, MA 01003	David N. Ferro	87-CRSR-2-3093 8702442	$5,257	06-15-87 06-30-88	Integrated Pest Management of Potato in Northeastern United States	SAES
Univ. of Maryland College Park, MD 20740	Allen L. Steinhauer	87-CRSR-2-3178 8702455	$5,799	09-01-87 08-31-88	Maryland's Participation in NAPIAP	SAES
Univ. of Maryland College Park, MD 20742	Lorin R. Krusberg	86-CRSR-2-2746 8702791	$20,000	03-01-86 08-31-88	Assistance in the National Agricultural Pesticide Impact Assessment Program	SAES
Michigan State Univ. East Lansing, MI 48824	George W. Bird	87-CRSR-2-3161 8702457	$10,075	07-01-87 06-30-88	Impact of Pesticides in Michigan Apple and Corn Production in 1987	SAES
Univ. of Minnesota St. Paul, MN 55108	Phillip K. Harein	87-CRSR-2-3035 8702416	$15,140	09-15-87 09-30-88	Minnesota Pesticide Impact Assessment Program	SAES
Univ. of Missouri Columbia, MO 65211	Mahlon L. Fairchfld	87-CRSR-2-3187 8702438	$11,573	08-01-87 01-31-89	Pesticide Impact Assessment Research and Data Analysis	SAES
Agric. & Forestry Expt. Stn. Mississippi State Univ. Miss. State, MS 39762	Jack T. Reed	87-CRSR-2-3179 8702410	$12,577	08-01-87 07-31-88	Assessment of Special Review Candidates and Registered Pesticides in Mississippi	SAES

Montana State Univ. Bozeman, MT 59717	J. Wayne Brewer	87-CRSR-2-3162 8702427	$6,422	07-01-87 06-30-88	Persistence of Pesticides in Soil and Barley and Effects on Selected Arthropods	SAES
North Carolina Agric. Res. Service North Carolina State Univ. Raleigh, NC 27695	Thomas J. Sheets	87-CRSR-2-3180 8702425	$13,025	09-01-87 08-31-88	Pesticide Impact Assessment Research and Data Analysis	SAES
Agric. Expt. Stn. North Dakota State Univ. Fargo, ND 58105	John D. Nalewaja	87-CRSR-2-3181 8702411	$7,774	08-01-87 07-31-89	Pesticide, Benefits, Usage, and Application Technology	SAES
Agric. Expt. Stn. Univ. of Nebraska Lincoln, NE 68583	Roger E. Gold	84-CRSR-2-2364 8702423	$14,787	04-15-84 09-30-88	Participation in the National Agricultural Pesticide Impact Assessment Program	SAES
Agric. Expt. Stn. Univ. of New Hampshire Durham, NH 03824	James S. Bowman	87-CRSR-2-3068 8702381	$5,000	07-01-87 06-30-88	Pesticide Impact Assessment Research and Data Analysis	SAES
Agric. Expt. Stn. Rutgers Univ. New Brunswick, NJ 08903	Fred C. Swift	87-CRSR-2-3188 8702454	$6,257	08-01-87 07-31-88	Monitoring for Resistance of European Red Mites to Acaracides	SAES
New Mexico State Univ. Las Cruces, NM 88003	H. Grant Kinzer	87-CRSR-2-3036 8702384	$5,320	09-15-87 09-30-88	Pesticide Impact Assessment Research and Data Analysis in New Mexico	SAES
Agric. Expt. Stn. Univ. of Nevada Reno, NV 89557	Harry G. Smith	84-CRSR-2-2426 8702294	$5,000	06-01-84 05-31-88	Evaluation of Data on RPAR and Pre-RPAR Pesticide Essential to Nevada Agriculture	SAES

Ohio Agric. Res. & Devl. Center Wooster, OH 44691	Acie C. Waldron	84-CRSR-2-2374 8702290	$13,159	06-01-84 09-30-88	Ohio Program for National Pesticide Impact Assessment Program	SAES
Ohio Agric. Res. & Devel. Ctr. Ohio State Univ. Wooster, OH 44691	Acie C. Waldron	86-CRSR-2-2757 8700950	$335,166	04-15-86 09-30-88	North Central Region Special Studies Program for Pesticide Impact Assessment	SAES
Agric. Expt. Stn. Oklahoma State Univ. Stillwater, OK 74078	O. Norman Nesheim	84-CRSR-2-2372 8702452	$8,595	05-15-84 05-31-88	Continued Participation in the National Agricultural Impact Assessment Program	SAES
Oregon State Univ. Corvallis, OR 97331	James M. Witt	83-CRSR-2-2107 8702426	$7,356	09-15-83 09-14-88	Oregon Pesticide Impact Assessment Program	SAES
Pennsylvania State Univ. 114 Kern Bldg. University Park, PA 16802	Herbert Cole, Jr.	87-CRSR-2-2977 8700946	$335,166	02-15-87 02-29-88	Northeastern Region Pesticide Impact Assessment Program	SAES
Pennsylvania State Univ. University Park, PA 16802	Winand K. Hock	87-CRSR-2-3075 8702440	$8,432	06-01-87 11-30-88	Pennsylvania Participation in National Pesticide Impact Assessment Program	SAES
Pennsylvania State Univ. University Park, PA 16802	Herbert Cole, Jr.	87-CRSR-2-2977 8702781	$31,700	02-15-87 09-30-88	Northeastern Region Pesticide Impact Assessment Program	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Rio Piedras, PR 00928	Nilsa M. Acin-Diaz	84-CRSR-2-2383 8702445	$5,320	09-15-84 09-30-88	Pesticide Impact Assessment Research and Data Analysis	SAES

Univ. of Rhode Island Kingston, RI 02881	W. Michael Sullivan	87-CRSR-2-3100 8702451	$5,000	06-15-87 06-30-88	The Uniformity of Pesticide Distribution with Irrigation System Application	SAES
Clemson Univ. Clemson, SC 29631	William DuBose, III	87-CRSR-2-3046 8702422	$8,489	09-01-87 08-31-88	South Carolina Participation in National Agricultural Pesticide Impact Assessment	SAES
Agric. Expt. Stn. South Dakota State Univ. Brookings, SD 57007	David Walgenbach	87-CRSR-2-3032 8702383	$7,203	05-01-87 04-30-88	SDAES Participation in NAPIAP Management of Grasshopper Populations with Insecticide Treated Baits	SAES
Agric. Expt. Stn. Univ. of Tennessee Knoxville, TN 37901-1071	Carroll J. Southards	83-CRSR-2-2094 8702417	$8,142	09-15-83 09-14-88	Pesticide Impact Assessment Research and Information System in Tennessee	SAES
Agric. Expt. Stn. Texas A&M Univ. College Station, TX 77843	Rodney L. Halloway	87-CRSR-2-3163 8702449	$19,451	09-01-87 11-30-88	Benefit and Uses of Pesticides in Texas	SAES
Utah State Univ. Logan, UT 84322	Howard M. Deer	87-CRSR-2-3026 8702414	$5,030	05-01-87 04-30-88	Utah Participation, National Agricultural Pesticide Impact Assessment Program (NAPIAP)	SAES
Virginia Polytechnic Inst. & State Univ. Virginia Agric. Expt. Stn. Blacksburg, VA 24061	Michael J. Weaver	84-CRSR-2-2371 8702409	$8,518	05-15-84 05-31-88	Virginia's Contribution to National Pesticide Impact Assessment (NAPIAP)	SAES
Univ. of Vermont & State Agric. College Burlington, VT 05405	Alan R. Gotlieb	87-CRSR-2-3140 8702439	$5,000	07-01-87 10-31-88	Effects of Selected Herbicides on Nontarget Fungus Pathogens of Weeds	SAES

Agric. Res. Ctr. Washington State Univ. Pullman, WA 99164	Richard C. Maxwell	87-CRSR-2-3027 8702424	$9,948	04-01-87 09-30-88	Benefit Assessment of Pesticides in Washington State	SAES
Univ. of Wisconsin Madison, WI 53706	Jeffrey A. Wyman	87-CRSR-2-3164 8702450	$11,491	07-01-87 06-30-88	Insecticide Resistance Management in Potatoes	SAES
Agric. Expt. Stn. Univ. of Wyoming Laramie, WY 82071	Alvin F. Gale	84-CRSR-2-2356 8702387	$5,000	05-01-84 06-30-88	Continued Participation in the National Agricultural Pesticide Impact Assessment Program	SAES

TOTAL $1,865,664

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: AQUACULTURE RESEARCH

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Univ. of Georgia Res. Fdn. Athens, GA 30602	Vicki S. Blazer	87-CRSR-2-3040 8701592	$19,643*	07-01-87 06-30-89	Dietary Lipid and Disease Resistance in Channel Catfish	SAES
Louisiana Agric. Expt. Stn. Louisiana State Univ. & A&M College Baton Rouge, LA 70893	William H. Brown	87-CRSR-2-2986 8700939	$189,600	02-01-87 07-31-88	Commercial Aquaculture of Crawfish and Red Drum	SAES
Mississippi Agric. & Forestry Expt. Stn. Mississippi State Univ. Miss. State, MS 39762	Louis R. D'Abramo	87-CRSR-2-3041 8701555	$64,762	07-01-87 12-31-89	Determination of Selected Nutritional Requirements of Juvenile Freshwater Prawns	SAES
Oregon State Univ. Corvallis, OR 97331	J. S. Rohovec	87-CRSR-2-3042 8701840	$14,594	09-15-87 09-30-88	Intracellular Infections by Renibacterium salmoninarum and Host Response	SAES
Oregon State Univ. Corvallis, OR 97331	C. J. Bayne	87-CRSR-2-3043 8702478	$80,000	08-01-87 07-31-89	Enhancement of Natural Immunity in Salmonids	Land Grant-1862

* Split-funded with Animal Health for a total awarded amount of $47,810.

Clemson Univ. Clemson, SC 29634	J. R. Tomasso, Jr.	87-CRSR-2-3044 8701597	$30,884	09-01-87 08-31-89	Optimum Transport Conditions for Red Drum Fingerlings	SAES
Texas A&M Res. Fdn. Box 3578 College Station, TX 77843	D. M. Gatlin, III	87-CRSR-2-3045 8701838	$60,297	09-01-87 08-31-89	Effects of Dietary Fish Oil on Fatty Acid Content and Flavor of Channel Catfish	SAES

TOTAL $459,780

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: MOSQUITO RESEARCH, RICELAND AGROECOSYSTEM

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Texas A&M Res. Fdn. College Station, TX 77843	J. K. Olson	86-CRSR-2-2831 8702749	$432,288	07-01-86 06-30-88	Riceland Mosquito Management Program	SAES

TOTAL $432,288

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: TROPICAL AND SUBTROPICAL RESEARCH

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Univ. of California Irvine, CA 92717	Joseph Arditti	86-CRSR-2-2820 8702465	$56,110	07-01-86 06-30-88	Selection of Salinity Tolerant Taro	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	Dean F. Davis	87-CRSR-2-2971 8700737	$32,500	01-01-87 01-31-88	CBAG Management Grant for Tropical and Subtropical Agriculture	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	Ronald H. Cherry	85-CRSR-2-2572 8702488	$28,326	07-01-85 06-30-88	Impact of *Bacillus popilliae* on Florida Sugarcane Grubs	SAES
Univ. of Florida Gainesville, FL 32611	K. H. Quesenberry	86-CRSR-2-2846 8702522	$58,768	07-01-86 06-30-88	Genetics, Physiology, Ecology, and Utilization of Tropical Forage Legumes	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	Laurence H. Purdy	85-CRSR-2-2577 8702519	$19,620	07-01-85 06-30-88	Sugarcane Rust: Physiological Races and Host Responses to Infection	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	J. E. Pena	86-CRSR-2-2845 8702523	$51,060	07-01-86 06-30-88	Management of Annona Pollinators and Pests	Land Grant-1862

Univ. of Florida Gainesville, FL 32611	Jerry F. Butler	86-CRSR-2-2819 8702532	$34,755	07-01-86 06-30-88	Characterization of Host/Tick Interaction for Vectors of ASF in the Caribbean	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	R. M. Giblin-Davis	86-CRSR-2-2841 8702553	$31,093	07-01-86 06-30-88	Culture and Biology of Red Ring Nematode and Evaluation of Host-Palm Resistance	SAES
Univ. of Florida Gainesville, FL 32611	Lynn E. Sollenberger	86-CRSR-2-2824 8702493	$12,000	07-01-86 06-30-88	Establishment, Response to Defoliation, and Utilization of N-75 Dwarf Napiergrass	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	D. D. Blatensperger	85-CRSR-2-2576 8702489	$10,873	07-01-85 06-30-88	Potyvirus and Cucumvirus Interaction with Forage Legumes	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	W. B. Sherman	86-CRSR-2-2822 8702490	$21,000	07-01-86 06-30-88	Low-chill Prunus Cultivar Improvement for the Subtropics and Tropical Highlands	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	C. H. Courtney	85-CRSR-2-2580 8702491	$39,522	07-01-85 06-30-88	Epidemiology and Control of *Trypanosoma vivax* of Ruminants in the Caribbean	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	Lee R. McDowell	86-CRSR-2-2843 8702492	$38,725	07-01-86 06-30-88	Mineral Nutrition of Grazing Ruminants in Florida and Caribbean Basin Countries	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	John W. Scott	86-CRSR-2-2844 8702494	$45,000	07-01-86 06-30-88	Methodology for Developing Multiple Disease Resistant, Heat-tolerant Tomatoes	SAES
Univ. of Florida Gainesville, FL 32611	G. H. Palmer	86-CRSR-2-2842 8702555	$47,325	07-01-86 06-30-88	Development of a Subunit Diagnostic Test for Bovine Babesiosis	Land Grant-1862

Univ. of Florida Gainesville, FL 32611	W. F. Brown	86-CRSR-2-2823 8702521	$41,463	07-01-86 06-30-88	Managing the Plant-animal Interface in Tropical Legume-grass Pastures	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	Dean F. Davis	87-CRSR-2-2971 8702780	$9,583	01-01-87 01-31-89	CBAG Management Grant for Tropical and Subtropical Agriculture	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	Clayton W. McCoy	86-CRSR-2-2821 8702554	$48,000	07-01-86 06-30-88	Survival of Beauveria bassiana as a Biological Control Agent in Tropical Soils	SAES
Univ. of Florida Gainesville, FL 32611	J. E. Funderburk	87-CRSR-2-3130 8702597	$21,591	07-01-87 06-30-88	Pathology and Efficacy of Beauveria bassiana Against Lesser Cornstalk Borer	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	William D. Pitman	87-CRSR-2-3129 8702598	$26,000	07-01-87 06-30-88	Collection and Screening of Desmanthus Germplasm for the Caribbean	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	F. D. Bennett	87-CRSR-2-3131 8702599	$14,131	07-01-87 06-30-88	Biological Control of Whiteflies Damaging Citrus in Florida and the Caribbean	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	M. J. Davis	87-CRSR-2-3132 8702600	$43,352	07-01-87 06-30-88	DNA Probes for Diagnosis of Mycoplasmal Diseases of Plants	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	R. K. Jansson	87-CRSR-2-3107 8702719	$35,740	07-01-87 06-30-88	Development of a Monitoring System for Sweet Potato Weevil Management	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	A. F. Barbet	87-CRSR-2-3106 8702720	$50,890	07-01-87 06-30-88	Development of a Nucleic Acid Probe for Diagnosis of Bovine Anaplasmosis	Land Grant-1862

Univ. of Florida Gainesville, FL 32611	J. L. Seale, Jr.	87-CRSR-2-3150 8702743	$22,074	07-01-87 06-30-88	Intra-Caribbean and U.S.-Caribbean Agricultural Trade: Implications for Development	Land Grant-1862
Univ. of Florida Gainesville, FL 32611	Donald L. Hopkins	85-CRSR-2-2575 8702520	$25,982	07-01-85 06-30-88	Role of Plant Growth Regulators and Xylem-Limited Bacteria in Citrus Blight	Land Grant-1862
Agric. Expt. Stn. Univ. of Guam Mangilao, GU 96923	Ilse H. Schreiner	86-CRSR-2-2840 8702448	$30,100	07-01-86 09-30-88	Biology and Control of Mango Shoot Moth and Mango Blotch Miner on Guam	SAES
Agric. Expt. Stn. Univ. of Guam Mangilao, GU 96923	Chin-Tian Lee	85-CRSR-2-2706 8702429	$32,200	08-01-85 07-31-88	Promote Flowering and Dwarfing of Winged Bean with Plant Growth Regulators	SAES
Agric. Expt. Stn. Univ. of Guam Mangilao, GU 96923	James McConnell	87-CRSR-2-3029 8702430	$35,200	07-01-87 06-30-88	Environmental Factors Affecting Flowering in Some *Vanda* and *Dendrobium* Hybrids in the Tropics	SAES
Agric. Expt. Stn. Univ. of Guam Mangilao, GU 96923	R. Muniappan	87-CRSR-2-3030 8702431	$46,500	07-01-87 06-30-88	Biology and Biological Control of the Red Coconut Scale, *Furcaspis oceanica* Lindinger	SAES
Agric. Expt. Stn. Univ. of Guam Mangilao, GU 96923	J. L. Demeterio	84-CRSR-2-2461 8702432	$50,400	07-01-84 06-30-88	Potential of Potato in Guam, Saipan and other Micronesian Islands	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	P. Y. Yang	87-CRSR-2-3071 8702503	$39,640	07-01-87 06-30-88	Management of Anaerobically — Digested Livestock Waste for Agricultural Production	SAES

Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Richard E. Green	85-CRSR-2-2657 8702458	$22,764	08-01-85 07-31-88	Matching Drip-Irrigation System Design and Operation to Soil Hydraulic Properties	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	H. M. Harrington	86-CRSR-2-2828 8702459	$60,553	07-01-86 06-30-88	The Molecular Basis of Heat Tolerance in Tropical Plants	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Wen-hsiung Ko	85-CRSR-2-2661 8702460	$36,694	08-01-85 07-31-88	Nature of Sexual Reproduction in *Phytophthora* of Tropical Crops	SAES
Hawaii Inst. of Tropical Agric. Human Resources Univ. of Hawaii Honolulu, HI 96822	R. M. Manshardt	85-CRSR-2-2653 8702461	$6,672	08-01-85 07-31-88	Identification and Characterization of *Phytophthora* Blight Resistance in Papaya	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	C. Womersley	85-CRSR-2-2654 8702463	$41,214	08-01-85 07-31-88	Fundamental and Applied Aspects of Anhydrobiosis in the Reinform Nematode Rotylenchulus Reinformis	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	J. A. Silva	84-CRSR-2-2386 8702468	$21,569	07-01-84 06-30-88	Prediction of Maximum Yields of Sugarcane with Growth Simulation Models	SAES

Hawaii Inst. of Tropical Agric. & Human Resouces Univ. of Hawaii Honolulu, HI 96822	Robert E. Paull	86-CRSR-2-2830 8702469	$35,133	07-01-86 06-30-88	The Development of Chilling Injury: The Role of Protein Turnover	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Edward P. Caswell	86-CRSR-2-2826 8702471	$40,479	07-01-86 06-30-88	Genetic Variation in Mitochondrial DNA's Among Geographic Populations of Rotylenchulus Reniformis	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Thomas L. German	86-CRSR-2-2829 8702472	$43,320	07-01-86 06-30-88	Characterization of the Tomato Spotted Wilt Virus Genome	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Joseph DeFrank	85-CRSR-2-2656 8702473	$40,996	08-01-85 07-31-88	Identification/Characterization of Living Mulches for Nematode Suppression in Cropping Systems	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	C. L. Chia	86-CRSR-2-2818 8702474	$17,614	07-01-86 12-31-88	Papaya Management Expert System	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Bruce Tabashnik	85-CRSR-2-2633 8702467	$48,291	07-01-85 06-30-88	Computer-aided Management of Insecticide Resistance in Tropical Pests	SAES

Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	David S. Haymer	87-CRSR-2-3072 8702507	$47,700	07-01-87 06-30-88	Isolation of Sex Determining and Sex Differentiating Genes in Hawaiian Fruit Flies	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	H. Y. Yamamoto	85-CRSR-2-2655 8702464	$44,335	08-01-85 07-31-88	Chemistry and Physiology of Rancidity Development in Tropical Nuts and Oils	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	D. L. Vincent	86-CRSR-2-2817 8702462	$62,619	07-01-86 06-30-88	Management Strategies to Prevent Delayed Puberty in Cattle in Subtropical Areas	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Ronald F. L. Mau	86-CRSR-2-2827 8702470	$68,153	07-01-86 06-30-88	Biological Analysis of *Thrips palmi* in the Pacific Basin	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	M. Aragaki	87-CRSR-2-3070 8702501	$36,300	07-01-87 06-30-88	Integrated Control of Legume Root-rots Caused by *Rhizoctonia solani*	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Jean B. Wyckoff	87-CRSR-2-3083 8702502	$34,700	07-01-87 06-30-88	Trade and Macroeconomic Policy Impacts on Small Island Agricultural Systems	SAES

Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Marian Rauch	87-CRSR-2-3080 8702506	$28,040	07-01-87 06-30-88	Development of a Methodology for Culture-Specific Food Groupings and Assessment	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Mike A. Nagao	87-CRSR-2-3090 8702566	$36,000	07-01-87 06-30-88	Synchronous Development of Tropical Fruit Trees	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	James H. Fownes	87-CRSR-2-3152 8702740	$31,600	07-01-87 06-30-88	The Role of Nitrogen Fixation in Sustainable Production of Agroforestry Systems	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	James L. Brewbaker	87-CRSR-2-3134 8702748	$47,000	07-01-87 06-30-88	Genetic and Biological Control of the Leucaena Psyllid	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Harry Yamamoto	87-CRSR-2-3151 8702742	$44,570	07/01/87 06/30/88	Light Stress (Photoinhibition) and the Violaxanthin Cycle	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	C. L. Murdoch	87-CRSR-2-3136 8702518	$35,400	07-01-87 06-30-88	Rhizosphere Chemistry in Relation to Crop Productivity in Tropical Soils with Low P Concentrations	SAES

Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	R. C. Jones	87-CRSR-2-3137 8702517	$44,260	07-01-87 06-30-88	Soil Productivity in the Tropics as Affected by Inherent Changing Mineralogy	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Suresh S. Patil	87-CRSR-2-3110 8702567	$44,100	07-01-87 06-30-88	Molecular Biology of Race-cultivar Specificity in Halo Blight of Bean	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Tung Liang	87-CRSR-2-3109 8702577	$26,000	07-01-87 06-30-88	Delineating Hawaiian Climate for Crop Introduction, with Emphasis on Cocoa	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	P. Leung	87-CRSR-2-3108 8702578	$39,798	07-01-87 06-30-89	Optimal Market Size of Cultured Marine Shrimps	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Robert M. Caldwell	87-CRSR-2-3135 8702579	$42,850	07-01-87 06-30-88	Intercrop Modeling: A Generalized, Process-Level Approach	SAES
Hawaii Inst. of Tropical Agric. & Human Resources Univ. of Hawaii Honolulu, HI 96822	Franklin Chang	87-CRSR-2-3133 8702580	$46,260	07-01-87 06-30-88	Basis of the Chemosterilant Action of J2581 in Fruit Flies	SAES

Louisiana State Univ. & A&M College Baton Rouge, LA 70803	Charles M. Smith	85-CRSR-2-2621 8702495	$33,000	07-01-85 06-30-88	Varietal Resistance to Insect Pests of Rice in the Caribbean Basin	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	Megh R. Goyal	85-CRSR-2-2664 8702570	$35,420	07-15-85 07-31-88	Irrigation Requirement Estimations in Puerto Rico	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	Linda Wessel-Beaver	86-CRSR-2-2810 8702571	$18,890	07-01-86 06-30-88	Collection and Evaluation of Cucurbita Moschata Accessions from Puerto Rico and the Dominican Republic	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	Lii-Jang Liu	86-CRSR-2-2813 8702538	$40,000	07-01-86 06-30-88	Selection of Pineapple Varieties Resistant to Diseases and Pest Via Somaclonal Variation	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	Linda W. Beaver	87-CRSR-2-3112 8702593	$34,707	07-01-87 06-30-88	Development of Tropical Tomato Germplasm with Pinworm Resistance	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	Alejandro E. Segarra	87-CRSR-2-3138 8702594	$43,263	07-01-87 06-30-88	Bioregulation of Tropical Fruit Susceptibility to Fruit Flies and Pathogens	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	Victor Snyder	87-CRSR-2-3153 8702595	$37,838	07-01-87 06-30-88	Crop and Soil Management Systems to Reduce Nutrient Stress in the Caribbean	SAES

Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	Mariano A. Padilla	87-CRSR-2-3111 8702596	$38,597	07-01-87 06-30-88	A Fertilizer-Stocking Rate Management System for Beef Cattle Grazing Stargrass Pastures	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	James S. Beaver	86-CRSR-2-2811 8702572	$29,550	07-01-86 06-30-88	Comparison of Three Selection Methods for Large Seeded Dry Beans in the Tropics	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	Alberto Pantoja	85-CRSR-2-2665 8702568	$18,500	07-15-85 07-31-88	Varietal Resistance to Insects of Rice in the Caribbean Basin	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	Nelia Acosta	85-CRSR-2-2663 8702573	$50,000	07-15-85 07-31-88	Improvement of Vegetable Production Through Integrated Nematode Management	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	R. Guadalupe-Luna	85-CRSR-2-2666 8702539	$29,287	07-15-85 07-31-88	Postharvest Technology of Tropical Fruits and Vegetables Produced in Puerto Rico	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	Hector M. Lugo	85-CRSR-2-2662 8702569	$40,889	07-15-85 07-31-88	Control of "Mal Seco" in Taniers through Crop and Soil Management Practices	SAES
Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	Julio Bird	86-CRSR-2-2812 8702537	$30,000	07-01-86 06-30-88	Virus Diseases of Passion Fruit (Passiflora Edulis) in Puerto Rico and the Dominican Republic	SAES

Agric. Expt. Stn. Univ. of Puerto Rico Mayaguez, PR 00708	A. C. Maldonado	85-CRSR-2-2667 8702540	$33,964	07-15-85 07-31-88	Improvement of the Yield and Nutritive Value of Edible Aroids with New Techniques	SAES
Agric. Expt. Stn. Univ. of Virgin Islands Kingshill, VI 00850	Adriano A. Navarro	85-CRSR-2-2579 8702576	$56,500	07-01-85 06-30-88	Water Use in Small Farming Systems in the Tropics	SAES
Agric. Expt. Stn. Univ. of Virgin Islands Kingshill, VI 00850	Michael W. Michaud	86-CRSR-2-2814 8702575	$37,290	07-01-86 06-30-88	Develop Agronomic Techniques to Improve Sward Establishment in the Caribbean	SAES
Agric. Expt. Stn. Univ. of Virgin Islands Kingshill, VI 00850	Stephen Wildeus	86-CRSR-2-2816 8702574	$49,066	07-01-86 06-30-88	Evaluation of the Reproductive Potential of Tropical Virgin Islands White Sheep	SAES

TOTAL $2,930,268

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: DARK-END SYNDROME OF POTATOES

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Agric. Expt. Stn. Univ. of Idaho Moscow, ID 83843	Gary A. Lee	87-CRSR-2-3199 8702810	$47,400	09-01-87 08-31-89	Potato Dark-End Syndrome Research Program/Idaho Experiment Station	SAES
Oregon State Univ. Corvallis, OR 97331	Ling-Jung Koong	87-CRSR-2-3033 8702500	$47,400	05-15-87 05-31-88	Soil and Irrigation Management Effects on Potato Production and Quality	SAES
Washington State Univ. Pullman, WA 99164	Willy M. Iritani	87-CRSR-2-2997 8701227	$47,400	04-01-87 10-31-88	Preventing Sugar End Syndrome via Cultivar Development and Cultural Practices	SAES

TOTAL $142,200

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: BIOCONTROL OF GRASSHOPPERS, KANSAS

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Kansas State Univ. Manhattan, KS 66506	David C. Margolies	87-CRSR-2-2987 8702050	$45,504	08-01-87 07-31-88	Influence of Behavior and Environment on Biological Control of Grasshoppers	Land Grant-1862

TOTAL $45,504

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: WOOD UTILIZATION

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Louisiana State Univ. & A&M College Baton Rouge, LA 70803	P. Klinkhachorn	87-CRSR-2-3052 8702508	$36,967	07-01-87 06-30-89	An Enhanced Yield Optimization Program for Use With an Automatic Defect Detection System	Land Grant-1862
Univ. of Maine Orono, ME 04469	Barbara J. W. Cole	87-CRSR-2-3053 8702513	$47,680	06-01-87 05-31-89	Studies of Betula Extractives	Land Grant-1862
Michigan State Univ. East Lansing, MI 48824	James W. Hanover	85-CRSR-2-2604 8701554	$489,860	06-15-85 06-30-89	Advanced Technology Applications to Eastern Hardwood Utilization	SAES
Michigan State Univ. East Lansing, MI 48824	S. E. Selke	87-CRSR-2-3054 8702511	$45,000	07-01-87 06-30-89	Use of Eastern Hardwoods in Wood Fiber-Plastic Composites	Land Grant-1862
Michigan State Univ. East Lansing, MI 48824	James W. Hanover	85-CRSR-2-2604 8702516	$44,320	06-15-85 06-30-89	Advanced Technology Applications to Eastern Hardwoods Utilization	SAES
Michigan Tech. Univ. Houghton, MI 49931	Peter E. Laks	87-CRSR-2-3056 8702510	$44,000	06-01-87 05-31-89	Chemistry and Utilization of Black Locust Bark	Public Univ/College

Michigan Tech. Univ. Houghton, MI 49931	Stephen M. Shaler	87-CRSR-2-3055 8702515	$49,000	07-01-87 06-30-89	Characterizing the Interfacial Properties of Polymer/Wood Fiber Composites	Public Univ/College
Univ. of Minnesota St. Paul, MN 55104	R. O. Gertjejansen	87-CRSR-2-3057 8702509	$45,984	06-01-87 05-31-89	Paper Birch as a Core Material for Aspen Waferboard and Oriented Strand Board	SAES
Agricultural & Forestry Expt. Stn. Mississippi State Univ. Miss. State, MS 39762	William T. Nearn	85-CRSR-2-2553 8702444	$901,232	04-01-85 06-30-89	Wood Utilization Research Programs	SAES
Oregon State Univ. Corvallis, OR 97331	George W. Brown	85-CRSR-2-2555 8702436	$901,232	05-01-85 04-30-89	Center of Wood Utilization Research	Land Grant-1862
Virginia Polytechnic Inst. & State Univ. Blacksburg, VA 24061	R. W. Conners	87-CRSR-2-3059 8702512	$49,466	06-15-87 06-30-89	Defining the User Defect Data in Terms of an Industrial Image Processing System	Land Grant-1862
Univ. of Washington Seattle, WA 98195	Bjorn F. Hrutfiord	87-CRSR-2-3060 8702514	$48,955	06-15-87 06-30-89	Chemistry of the Eastern Poplars	Public Univ/College

TOTAL $2,703,696

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: PLANT STRESS, NEW MEXICO, CALIFORNIA & TEXAS

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
New Mexico State Univ. Las Cruces, NM 88003	John D. Kemp	86-CRSR-2-2748 8701045	$364,980	03-01-86 09-30-88	Southwest Plant Genetics/Water Resources Consortium	SAES

TOTAL $364,980

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: PRIME FARMLAND RECLAMATION, (IL)

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Univ. of Illinois Urbana, IL 61801	Ivan J. Jansen	87-CRSR-2-3061 8702723	$189,600	05-15-87 05-31-90	Prime Farmland Reclamation After Surface Mining	SAES
Univ. of Kentucky Res. Fdn. Lexington, KY 40506-0057	Richard I. Barnhisel	87-CRSR-2-3062 8702739	$94,800	05-15-87 05-31-88	Restoration of the Productivity of Prime Farmland Following Surface Mining	SAES

TOTAL $284,400

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: BELGIUM ENDIVE, MASSACHUSETTS

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Univ. of Massachusetts Amherst, MA 01003	Kenneth A. Corey	87-CRSR-2-3023 8702389	$56,880	05-01-87 04-30-88	Production of Belgian Endive	SAES

TOTAL $56,880

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: ACID PRECIPITATION

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
Univ. of Florida Gainesville, FL 32611	R. Hilton Biggs	87-CRSR-2-3211 8702836	$30,000	09-15-87 09-30-88	Acid Deposition-Free Radicals and Physiological Responses of Citrus Sinensis (L.) Osb.	Land Grant-1862
Univ. of Illinois Urbana, IL 61801	Wayne L. Banwart	87-CRSR-2-3212 8702835	$90,000	09-01-87 08-31-89	Interaction of Acid Rain and Drought Stress on Yield and Growth of Corn	Land Grant-1862
Univ. of Massachusetts Amherst, MA 01003	William J. Manning	87-CRSR-2-3200 8702816	$94,800	09-01-87 08-31-90	Effects of Ozone, Acid Rain and *Phytophthora megasperma* on Soybeans	Land Grant-1862
Univ. of Maine Orono, ME 04469	Richard Jagels	87-CRSR-2-3206 8702814	$109,653	09-15-87 09-30-89	Anatomical and Chemical Alterations in Red Spruce Foliage Following Exposure to Acidified Fog	SAES
Univ. of Minnesota St. Paul, MN 55104	Sagar V. Krupa	87-CRSR-2-3201 8702813	$80,204	09-01-87 08-31-89	Comprehensive Characterization of Pollutant Exposure Dynamics of Alfalfa to Ambient Atmospheric Deposition in Minnesota	Land Grant-1862
Univ. of Missouri Columbia, MO 65211	Robert W. Blanchar	87-CRSR-2-3202 8702817	$35,000	09-01-87 08-31-89	Foliar Application of Sulfuric Acid and Rhizosphere pH in Layered Soil	SAES

Rutgers Univ. New Brunswick, NJ 08903	B. A. Zilinskas	87-CRSR-2-3203 8702818	$67,200	09-01-87 08-31-89	Sorting Out Acid Precipitation Effects from Ozone Effects (An Analysis of EDU/Plant Responses)	Land Grant-1862
Ohio State Univ. Res. Fdn. Columbus, OH 43212	B. R. Stinner	87-CRSR-2-3204 8702815	$20,000	09-01-87 08-31-89	Effects of Acid Precipitation on Soil-Inhabiting Invertebrates in Corn Systems	Land Grant-1862
Pennsylvania State Univ. University Park, PA 16802	Eva J. Pell	87-CRSR-2-3207 8702830	$99,771	09-01-87 08-31-89	Impact of O_3 and Acid Rain on Rubisco and Related Rate of Senescence in Radish	Land Grant-1862

TOTAL $626,628

SPECIAL RESEARCH GRANTS PROGRAM
PROGRAM AREA: GULF COAST SHRIMP

GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION	PRINCIPAL INVESTIGATOR	GRANT NUMBER PROPOSAL NUMBER	AMOUNT	AGREEMENT PERIOD FROM TO	TITLE	
The Oceanic Institute Makapuu Point Waimanalo, HI 96795	E. S. Mc Sweeny	85-CRSR-2-2537 8702871	$222,363	01-01-85 06-30-88	Marine Shrimp Farming	Private Non-profit
Oceanic Institute Makapuu Point Waimanalo, HI 96795	James A. Wyban	85-CRSR-2-2537 8700942	$1,155,180	01-01-85 06-30-88	Marine Shrimp Farming	Private Non-profit
Gulf Coast Research Laboratory East Beach Drive Ocean Springs, MS 39564	Robin M. Overstreet	85-CRSR-2-2538 8700947	$507,691	01-01-85 12-31-87	Marine Shrimp Farming	Other/MS Inst. of Higher Learning
Gulf Coast Research Laboratory East Beach Drive Ocean Springs, MS 39564	Robin M. Overstreet	85-CRSR-2-2538 8702872	$65,000	01-01-85 12-31-87	Marine Shrimp Farming	Other/MS Inst. of Higher Learning

TOTAL $1,950,234

EXTERNAL COMBUSTION ENGINE PROJECT, STIRLING ENGINE

Question: In fiscal year 1987, USDA made some money available for research and development of an external combustion engine. How many grants were awarded for this kind of work? What industrial and university entities are involved in either a primary or a secondary role in these grants? What concepts are they pursuing?

Answer: Two grants totaling $485,000 were made. One for $138,223 went to the Department of Agricultural Engineering of Ohio State University, and the other for $346,776 went to Valmont Industries of Valley, Nebraska. Valmont Industries is subcontracting some of their work to the University of North Dakota Energy and Mineral Research Center and to Mechanical Technology, Inc. located in Ann Arbor, Michigan. They will also utilize a consultant from the University of Maine's Agricultural Engineering Department. Valmont will use biomass, wood chips, stover, and wheat straw, as well as coal in a fluidized bed combustor with a heat pipe to power a 75 to 100 brake horsepower Stirling engine. Ohio State University will utilize a small atmospheric fluidized bed combustor. They will develop a heat pipe transfer system and power a 5 horsepower Stirling engine. The fuel will be corn cobs, wood by-products, and high sulfur coal.

Question: Is industry cost-sharing in these grants? Is it a requirement that they do so? How much private sector investment has occurred, addressing the solid-fueled Stirling concept, since 1980?

Answer: Valmont Industries is cost-sharing in the USDA grant although that is not a requirement of the grants program. We have no way of knowing how much all of industry has invested in the solid-fueled Stirling concept. Valmont Industries reports some $9 million of company investment in the project. The Department of Energy has funded development of a liquid-fueled mobile Stirling engine system with over $130 million since 1980.

Question: What will be the final results of the grants? Will commercially available equipment result?

Answer: The grants will result in reports on the development and operation of stationary external combustion engine systems using biomass energy. Commercially available equipment will not be a product of these grants. These units are still research prototypes.

Question: Approximately how many million gallons of diesel fuel and how many billion cubic feet of natural gas are now being used for irrigation water pumping on an annual basis?

Answer: In 1983, an ERS study showed some 530 million gallons of diesel fuel and 144 billion cubic feet of natural gas were used for pumping irrigation water. In addition, irrigation pumping also took 23 billion kwh of electricity, 257 million gallons of LP gas and 57 million gallons of gasoline. Use of gasoline is declining while diesel fuel use is expanding.

Question: What is the minimum of time and the minimum amount of government participation needed to ensure that solid-fueled external combustion engine systems, in the 100 horsepower class, be made ready for industry to begin the commercialization process.

Answer: Information needed to determine the state of readiness and thus the time and funds necessary to produce a system ready for commercialization is inadequate. Durability testing of components, redesign of parts, and retesting can be time consuming. These are one of a kind parts that must be made and tested.

Question: If the equipment were commercially available, what markets other than irrigation water pumping could be served? In other words, what additional applications are envisioned.

Answer: The Stirling engine could be used for virtually any stationary application requiring shaft power. For example, electric power generation, power for saw mills, grain processing, mixing concrete, running cotton gins, etc.

Question: Do you see a need for additional government financing of this work? What will happen without such support--to the research and to the entities conducting the research?

Answer: Without government financing, the research efforts likely will be reduced.

HIGHER EDUCATION

Question: The Administration's Budget contains a net decrease of $5,452,000 in Higher Education Programs at a time when there is an acknowledged shortage of expertise in key fields such as Agriculture, Natural Resources, and Veterinary Medicine. How did CSRS decide to place increased emphasis on Higher Education Strengthening Grants in lieu of the Morrill-Nelson program or Graduate Training grants?

Answer: In recent years, research and extension programs and facilities at the 1890 land-grant institutions have been strengthened through the provisions of Sections 1444 and 1445 of P.L. 95-113, as amended, and Section 1433 of P.L. 97-98. A stable funding base for resident instruction at these institutions is needed to ensure a strong overall program in the food and agricultural sciences. This increase will maintain the funding level at the full $2 Million which was the appropriated level prior to the reduction made in fiscal year 1986 due to Gramm-Rudman-Hollings. Support for training programs at 1862 land-grant institutions is provided indirectly through the Competitive Research Grants program and through the provisions of the Hatch Act and related formula base funded programs.

Question: Higher Education Training Grants have received broad support because they encourage pre-doctoral students to compete for fellowships in areas where expertise is most needed. Please explain why CSRS has recommended that these grants be eliminated?

Answer: Other than the Higher Education Strengthening Grants program for 1890 land-grant institutions, the Department is not requesting funds in fiscal year 1989 to support Higher Education Training Grants. Support for the development of agricultural expertise will be provided through an increased Competitive Research Grants program and through the provisions of the Hatch Act and related base formula funded programs.

Question: The National Association of State Universities and Land-Grant Colleges and other groups have registered their support for the establishment of a Competitive Challenge Grants Program to attract students to agriculture. What do you think about this suggestion, particularly the involvement of business and local government contributing to the funding base of the program?

Answer: The Department is aware of the proposal for such a program supported by almost 100 agribusiness executives with whom we have been in contact and the Resident Instruction Committee on Organization and Policy --RICOP-- which is the major organization representing the interests of the administrators of food and agricultural science academic programs at land-grant universities. The program would generate matching private and/or state funds to ameliorate targeted problems in this Nation's food and agricultural sciences higher education system. Given other priorities, we are not recommending funding for this new program in 1989.

Question: During last year's hearings, the Committee asked USDA to provide data on the number of research scientists that would be retiring in the next ten years. Based on the information provided, it is clear that we must do all we can to encourage students to pursue Agriculture and Natural Resources Science as fields of study. In the context of the Fiscal Year 1989 Budget proposal, what is CSRS doing to encourage greater participation of women and minorities in the food and agricultural sciences?

Answer: The Higher Education Strengthening Grants program request is $2 million in the President's FY 1989 Budget. This program provides a stable funding base to develop a strong resident instruction program in the food and agricultural sciences at historically black land-grant institutions, Tuskegee University, and the University of the District of Columbia. These institutions provide a continuing source of minority graduates both for entry into professional positions and for entry into graduate programs across the Nation. Funds in this program provide resources to strengthen the quality of food and agricultural sciences academic programs in such areas as: curriculum revitalization in the basic sciences, systems analysis, business and marketing, ethics and public policy, environmental sciences, as well as the humanities and social sciences; faculty development strategies including exchange programs with other universities, industry, and government, local and regional seminars, strengthening mechanisms to enhance peer assessment and development of teaching techniques, and establishment of a senior faculty mentors program for new faculty; and student internships.

Also included in the FY 1989 Budget is an increase in the Evans-Allen program to 1890 Colleges and Tuskegee University. These funds provide continuing support of agricultural research at 1890 Land-Grant Universities and Tuskegee University. Additionally, other base funded formula research programs contribute significantly to the support of female and minority students.

GRADUATE FELLOWS

Question: Is the Department of Agriculture surveying the activities of graduate fellows completing their studies to encourage their pursuit of careers in the Agricultural Sciences?

Answer: While it is still too early in the program to identify specific career paths of individual fellows we do have information relative to the few who have completed their academic programs. Of those who have completed their programs, and, on whom we have information: three have chosen careers in government with the Economic Research Service, the Agricultural Research Service, and a local Water District; two have accepted positions with major agribusiness firms; two will be pursuing doctoral degrees; two have accepted post-doctoral appointments at their universities; and one has accepted a university faculty position. We are also planning a National Symposium, to be co-hosted by the National Academy of Sciences, to provide a forum for the discussion of issues in scientific talent development. The accomplishments of the first class of USDA graduate fellows will be highlighted.

Question: What major areas of research are the fellows pursuing?

Answer: A review of the fellows' dissertation titles indicates some exciting areas of research as follows:

National Need Area: Agricultural Engineering

Oklahoma State University
Optical Range-Finding from Image Focus

The Ohio State University
ADAPT - A Model to Stimulate Pesticide Movement into Subsurface Drains

Texas A&M University
A Stochastic Weather Generation Model to Develop Hourly Precipitation and Temperature

University of Florida
Irrigation Management Based on an Adaptive Sensor Based Expert System and Hourly Evapotranspiration Model

University of Illinois
Quantitative Analysis of Herbicide Incorporation by Tillage Tools Using Computer Image Processing

National Need Area: Food and Agricultural Marketing

University of Wisconsin-Madison
A Computable General Equilibrium Model of Trade Liberalization in Agriculture

Texas Tech University
Economic Potential for Processed Potatoes and Onions In West Texas

North Carolina State University
Effect of U. S. Farm Programs on the Supply of U.S. Commodities

University of California-Davis
Determinants of Successful Formulation of New Commodity Futures Markets

University of California-Davis
An Analysis of Pacific Rim Trade in Salmon

National Need Area: Biotechnology

Colorado State University
Application of Nucleic Acid Hybridization Probes for Bluetongue and Bovine Viral Diarrhea Viruses

University of Iowa
Mutations in the Bacteriophage Lambda Terminase Binding Sites Which Do Not Affect DNA Packaging

University of Missouri
Cultivar Specific Resistance to DNA Transferred by Agrobacterium Tumefaciens

University of California-Los Angeles
Methods by which Transcriptional Control of Several Genes Involved in Photosynthesis are Achieved at Molecular Level

National Need Area: Food Science/Human Nutrition

Tufts University
Rice in Puerto Rico: Increased Food Security or Vulnerability?

Kansas State University
Production of Processed Meats with Reduced Caloric Density by the Addition of Dietary Fiber .

Mississippi State University
Some Effects of Ultrafiltration and Accelerated Ripening Treatments on the Development of a Lowfat Cheese

Cornell University
Hormone Regulation of Hepatic Gene Regulation

Cornell University
Characterization of the Glucose-6-phosphatase System in Isolated, Permeabilized Hepatocytes and Studies of Carbohydrate Metabolism in Vitro

University of California-Davis
The Role of Lactoferrin in Iron Absorption from Milk

Question: Toward what areas of research is there a need to draw more students?

Answer: Annual demand for persons having doctoral degrees or postdoctoral experience in biochemistry, molecular biology, genetics, water sciences, food science, nutrition, bioprocessing/agricultural engineering and plant/animal/soil sciences is expected to be very strong. Likewise, there will be strong employment opportunities available to qualified graduates in business and finance, institution management, and marketing.

Question: In what new and innovative ways can students be recruited into food and agricultural science careers?

Answer: Colleges of Agriculture and Natural Resources are working diligently to improve their recruitment and retention programs, to augment faculty development opportunities, and to strengthen curricula. Many are working in concert and are sharing resources for the solution of mutual problems. Opportunties exist to attract students from other than the Colleges of Agriculture and Natural Resources into careers in agriculture. RICOP and other groups such as the Association of Colleges of Business Administration have proposed initiating a Challenge Grants Program and a Post-Doctoral Training Grants Program as means to attract more students into agriculture. Industry has shown a strong willingness to provide matching funds for the Challenge Grants program.

The Department has also cooperated with the Department of Education to co-sponsor a study by the National Academy of Sciences to critically examine vocational and technical education related to agriculture in secondary schools. This study is expected to improve the curricula related to agriculture and thereby create a desire among science oriented high school students to pursue and complete a degree in one of the food and agricultural sciences.

QUESTIONS SUBMITTED BY SENATOR CHILES

RESEARCH AND DEVELOPMENT

Question: What percentage of the Department's budget is devoted to basic and applied research? What is the trend over the past 15 years in both total research dollars and research as a percentage of the Department's budget?

Answer: Outlays for research and development in the 1989 budget represent about two percent of total USDA outlays. Basic research accounts for about one-half of the research and development outlays. Total research and development outlays have increased by 150 percent during the past 15 years. As a result of growth in other areas of the USDA budget, primarily commodity and nutrition programs, 1989 research and development outlays represent two percent of total outlays, down from 3.6 percent in 1974.

BIOTECHNOLOGY RESEARCH

Question: What organizational steps has the Department taken to promote basic and applied research in biotechnology (defined in these questions as use of recombinant DNA, cell fusion and novel bioprocessing techniques as opposed to traditional selective breeding or use of micro-organisms for brewing and baking)?

Answer: The Department has established three organizational entities to facilitate research. The first two are concerned with the oversight and regulation of agriculture-related biotechnology. The need for them was based on the perception that biotechnology has an enormous beneficial potential for agriculture but that there are legitimate environmental and health concerns. The Agriculture Biotechnology Research Advisory Committee was established to ensure that research is conducted safely. Its role is to review proposals and make recommendations regarding their approval by the Assistant Secretary for Science and Education. The second entity, the Office of Agricultural Biotechnology, serves a Department-wide staff coordinating functions and provides a mechanism for assuring consistency between Departmental research and regulatory activities. The third entity, the National Biological Impact Assessment Program --NBIAP-- was established by the Assistant Secretary for Science and Education to promote both basic and applied biotechnology research. NBIAP is a CSRS-administered program designed to provide the scientific underpinning needed to assess and monitor the potential impacts of biotechnological processes and products. The fiscal year 1989 budget includes an increase of $250,000 for NBIAP under the Special Research Grant Program.

Question: Researchers report that insufficient information regarding basic plant molecular biology has hindered agricultural plant biotechnology development. What steps is the Department taking to remedy this situation?

Answer: The Department is well aware of the critical need for basic fundamental knowledge regarding plants needed for agricultural plant biotechnology development. The Competitive Research Grants Program was developed and has been enlarged to provide research grants targeted to plant sciences. In addition, the biotechnology competitive grants area contributes greatly to addressing the area of basic plant molecular biotechnology. The Department has requested an additional $2.6 million to support biotechnology competitive research grants.

In fiscal year 1988, a new Plant Science Centers program will be initiated with at least $2 million from each of the three agencies: NSF, DOE, and USDA. The USDA funding will be obtained over a two-year period. The Plant Science Centers program is intended to bring together the best basic scientists from many disciplines such as chemistry, biochemistry, genetics and plant physiology, to collectively bring to bear their expertise and discover fundamental information about plants to enhance biotechnology opportunities, eventually resulting in the development of commercial products for world market competition.

Question: What is the dollar amount and percentage of research funds expended by the Agricultural Research Service on plant recombinant DNA - related research? On animal recombinant DNA - related research? On biotechnology techniques for commodity processing and delivery? What is the trend in these areas since 1980?

Answer: The Agricultural Research Service will expend in FY 1988, $18,899,400 (8.9%), $14,462,000 (15.2%), and $5,581,200 (5.3%) on recombinant DNA research on plants, animals, and commodity processing/conversion, respectively.

The expenditures have nearly doubled since 1980 in biotechnological research.

Question: I understand that roughly $12 million in Hatch Act funds will be directed toward broadly-defined biotechnology research in the proposed 1989 budget, about the same as last year. Can you specifically identify the amounts reported spent over the last four years on recombinant DNA - related plant and animal research? What are these amounts as a percentage of total Hatch Act funds distributed in those years?

Answer: The amount of recombinant DNA research supported by Hatch Act funds over the last four years is as follows:

Hatch Act Recombinant DNA Research
($ in thousands)

Fiscal Year	Plants	Animals	Other a/	Total	Percent of Total Hatch Act Obligations
1987	$1,529	$536	$815	$2,880	2.0%
1986	1,529	536	815	2,880	2.0%
1985	1,499	583	725	2,807	1.9%
1984	1,128	517	629	2,274	1.6%

a/ Includes research on microbials and mixtures of plant and animal biota.

Question: The largest amount of biotechnology research is funded through the Cooperative State Research Service's Competitive Grants. In the 1989 budget proposal, what is the amount set aside for plant and animal recombinant DNA - related research? What are those figures as a percentage of all Competitive Grant expenditures? Has the dollar amount and percentage increased over the last four years?

Answer: The 1989 CSRS budget proposal includes a total of $48.5 million for biotechnology research some of which would be expected to support recombinant DNA research. The actual amount for Competitive Research Grants recombinant DNA projects is not known in advance. Until the fiscal year 1989 grants are actually awarded, this information is not available. The fiscal year 1988 grants are also yet to be awarded. However, data for fiscal years 1986 and 1987 is available. The information follows:

Competitive Research Grants	Fiscal Years ($ in millions) 1987	1986
Amount of Plant recombinant DNA Research	$12.1	$12.6
Amount of Animal recombinant DNA Research	$5.3	$3.8
Amount of Competitive Research Grant Awards	$38.5	$40.1
% Plant recombinant DNA research to total Competitive Research Grant awards	31.4%	31.4%
% Animal recombinant DNA research to total Competitive Research Grant awards	13.8%	9.5%

Question: What percentage of Competitive Grant proposals received by the Department in each of the last four years have involved plant recombinant DNA research? Animal recombinant DNA research? What percentage of these proposals have been funded in each of the past four years? What percentage of non-biotechnology research proposals have been funded?

Answer: We do not retain copies of unsuccessful proposals once final action has been taken on them. The data you have requested is only available for fiscal years 1986 and 1987. The percentage of proposals that deal with recombinant DNA has remained constant for the past two years, 24% for the plant science proposals and 33% for the animal science proposals. The overall funding rate for competitive grant proposals has run about 20% for proposals dealing with recombinant DNA as well as those that do not.

MULTI-DISCIPLINARY BIOTECHNOLOGY RESEARCH CENTERS

Question: Recent reports have pointed out the advantages of multi-disciplinary biotechnology research centers. In fact, much of the progress in animal biotechnology research is attributable to basic biomedical advances. How does the Department encourage cooperative research involving agriculture and other disciplines, including biomedical research? What is the status of the proposed multi-disciplinary facility at the University of Florida's Biotechnology Research Institute?

Answer: Multidisciplinary research is encouraged by the programs supported by the Department of Agriculture. For many years a percentage of the Hatch formula funds have been devoted to regional research involving different disciplines in a number of universities and Federal laboratories directed towards solving a specific agricultural problem. This has been particularly helpful in a number of disease conditions in animals using biomedical advances. USDA leaders are continually working with Universities and Federal biotechnology laboratories to assist them in developing multidisciplinary biotechnology programs.

Perhaps the best example of a specific program is the new Plant Science Centers program in cooperation with the National Science Foundation and the Department of Energy. This program is specifically designed to bring together the basic sciences, e.g.: chemistry, biochemistry, genetics, and plant physiology to address gaps in our basic knowledge relating to plants. Government agencies have been encouraged to participate with Universities and other institutions in these Centers.

The guidelines for the feasibility study for the Agricultural Biotechnology Institute at the University of Florida were sent to the university on February 12, 1988. Upon receipt of a proposal from the University of Florida, CSRS will execute a cooperative agreement with the institution. In the meantime instructions are being provided to the University for the documentation needed to evaluate the project, make a site visit, and prepare the final feasibility study. Early July is the target date for closure.

BIOTECHNOLOGY RESEARCH

Question: Would you list by commodity the amount of biotechnology research funded by the Agricultural Research Service over the last four years? The amount funded by the Cooperative State Research Service?

Answer: Biotechnology research supported by Cooperative State Research Service is as follows:

	FY 1985	FY 1986	FY 1987	FY 1988
	(in thousands of dollars)			
Hatch Act	$12,150	$11,555	$11,555	$12,075
Cooperative Forestry	242	230	230	240
Evans-Allen Program	220	209	209	218
Special Research Grants	3,418	3,396	3,245	3,245
Competitive Research Grants	30,040	29,063	28,882	33,669
Animal Health & Disease	537	511	511	534
Forestry Competitive Grants	1,760	1,254	2,346	1,173
Total	48,367	46,218	46,978	51,154

Biotechnology research supported by the Agricultural Research Service is as follows:

	FY 1985	FY 1986	FY 1987	FY 1988
	(in thousands of dollars)			
Plant Science................	$10,237	$10,822	$15,102	$18,899
Animal Science	8,771	8,343	12,549	14,462
Soil and Water Conservation .	227	216	412	431
Commodity Conversion and Delivery	7,316	6,959	6,565	5,581
Human Nutrition	51	48	- -	- -
Total	26,602	26,388	34,628	39,373

This information is not available by commodity.

BIOTECHNOLOGY RESEARCH

Question: A critical need for the further development of biotechnology-related products is adequate research for safe and efficient regulation of those products. How is the Department addressing that need, and what plans do you have for future regulatory research?

Answer: The products of biotechnology research must be shown to be safe. The Department of Agriculture recognizes that government, industry, and academia need scientific data on which to base safe development of products from biotechnology. The current reservoir of data on bioengineered organisms in both natural and managed ecosystems needs to be expanded.

The Department has begun to receive specific inquiries about prospective research tests of genetically modified organisms in agricultural ecosystems. USDA, under the authority of amendments to the National Agricultural Research, Education, and Teaching Policy Act, has established appropriate controls with respect to the development and use of the application of biotechnology to agriculture research. These controls include supplementation of existing Institutional Biosafety Committees for reviewing specific agricultural proposals at the local level, establishment of the Office of Agricultural Biotechnology to coordinate research biosafety reviews and the development of research review procedures, and establishment of the Agriculture Biotechnology Research Advisory Committee to mobilize scientific expertise for developing recommendations on agricultural biotechnology research and policy at the national level.

In addition to the above administrative mechanisms, which are similar to those established and utilized for over a decade by the National Institutes of Health for biomedical recombinant-DNA research, USDA has also established a research monitoring mechanism that is unique to agricultural research. Agricultural research on living organisms, whether bioengineered or not, often involves outdoor testing. To avoid the possibility of unintended effects on agricultural production systems, USDA utilizes a pre-existing national infrastructure centered in land-grant universities and agricultural experiment stations for assessing the performance of new agricultural varieties produced by traditional methods. This infrastructure has been enhanced to help address and resolve scientific uncertainties and public concerns about the possible unintended effects of bioengineered organisms on biotic systems.

The enhanced infrastructure is called the National Biological Impact Assessment Program -- NBIAP. It provides a comprehensive pool of scientific expertise as well as sites, facilities and resources for studying the biotic effects of biotechnology research field tests. The Program is expanding scientific knowledge to facilitate applications of biotechnology to agriculture. Program elements include pre-release assessment of biological impacts, post-release monitoring of test sites, development of new technologies for tracking bioengineered organisms, development of protocols and procedures for releasing, sampling, and monitoring bioengineered organisms in the context of agricultural research, and the development and exchange of information on bioengineered organisms in managed ecosystems. CSRS is requesting a $250,000 special research grant for NBIAP in the fiscal year 1989 budget.

TROPICAL AND SUBTROPICAL AGRICULTURAL RESEARCH PROGRAM

Question: The Tropical/Subtropical Agricultural Research Program was initiated to provide a foundation for improvement in agricultural productivity and efficiency. What is the current impact of this program in light of these goals?

Answer: The Tropical/Subtropical Special Research Grants program has helped provide a research foundation for improvement in agricultural productivity and efficiency through research in the areas of reducing pest losses from diseases, insects and weeds; improving animal and crop production; reducing postharvest losses of crops from poor handling and shipping practices; and improving agricultural production through better use of land and water resources.

A few specific examples are research conducted in Florida to control the ringspot virus of papaya through finding and developing resistant varieties; evaluation of tropical forage legumes either alone or in combination to increase beef cattle production; and controlling root weevils of citrus. Drip irrigation technology, which uses much less water than other irrigation methods, has been developed for use in the Virgin Islands. Puerto Rico scientists have increased yields of yams and taniers through use of virus-free planting stock and have found rice germplasm resistant to insect pests.

RESEARCH IN FLORIDA

Question: How is the Caribbean Initiative affecting agricultural concerns in the State of Florida?

Answer: Research is being conducted by Florida Agricultural Experiment Station scientists on many of Florida's agricultural concerns. Research is in progress presently toward finding resistance in palm trees to red ring nematodes, determining if plant growth regulators can alleviate citrus blight, developing even better disease and heat tolerant tomatoes, finding new ways to further improve pastures for beef cattle, finding better diagnostic tests and controls for several livestock diseases, searching for a biological control of whiteflies damaging Florida citrus, and trying to devise new methods of controlling sugarcane rust. Previous Florida research has been directed mainly toward reducing agricultural pest losses from insects and diseases and improving animal and crop production.

QUESTION SUBMITTED BY SENATOR BUMPERS

UNIVERSITY OF ARKANSAS POULTRY ISOLATION UNIT

Question: Dr. Jordan, last week I addressed a question to Secretary Lyng concerning the $500,000 provided in the FY 88 appropriation through CSRS for the University of Arkansas at Fayetteville for the upgrading of its poultry isolation unit. It has come to my attention that CSRS denied a request by the University to use some of these funds for critical construction needs on the poultry isolation unit. I am interested on knowing on what grounds the request was denied and on what steps the CSRS is taking to assist the University on this critical need?

Answer: The fiscal year 1988 appropriation provided $500,000 for a Special Research Grant to upgrade the poultry isolation unit at the University of Arkansas. Special Research Grants are authorized under Section 2(c) of the Act of August 4, 1965, as amended (7 U.S.C. 450i(c). This legislation provides that no grant may be made under this authority "for the planning, repair, rehabilitation, acquisition, or construction of a building or facility." In accordance with a grant proposal received from the University of Arkansas and in discussions with College of Agriculture administrators, these funds will be used for the hiring of personnel and purchase of equipment for the isolation unit.

QUESTIONS SUBMITTED BY SENATOR HARKIN

BIOTECHNOLOGY

Question: To what extent does that $2.6 million represent an actual increase in scientific man-years of research?

Answer: The proposed increase in biotechnology funds could support 10-15 scientist-years plus 15 post-doctoral scientists.

Question: What is being done to improve the links between the Agriculture Colleges at our land-grant schools and the departments of biochemistry, genetics and other fields which can have application to agricultural research?

Answer: The Competitive Research Grants program of the USDA has been extremely successful in providing links between the agricultural colleges and the appropriate departments of other colleges, universities, and institutions. The availability of funding has attracted highly qualified scientists to areas dealing with basic agricultural research. There are numerous examples of distinguished scientists from private universities who are now pursuing plant molecular biology as a result of "seed" funding provided by the Competitive Research Grants program that led them to potential application of their expertise to agricultural problems. As is inevitable, this early support brought these scientists in contact with other scientists in the land-grant institutions. Thus, the Competitive Research Grants program has been extremely effective in providing linkages between scientists in biochemistry, genetics, botany, etc., and other departments at universities throughout the country. The plant science centers would also encourage multi-disciplinary approaches to research.

LOW-INPUT AGRICULTURE

Question: I believe that Low input agriculture is a crucial area of research. In Iowa, the state legislature has established a research center in that area. Farmers are very concerned about the contamination of groundwater and so are their friends in Iowa's cities. What was the appropriated level in this area in FY 88 and what does your budget call for in FY 89.

Answer: In fiscal year 1988, $3.9 million has been appropriated to CSRS for a new program on low-input agriculture. In addition, $68.1 million in other non-designated funds are directed to this work. For 1989, earmarked funds are not proposed for this research but we estimate that about $62.9 million of Hatch and other funds would be directed to this research. Iowa's Leopold Center is a highly commendable effort supporting sustainable or low-input agriculture as well as water quality research and education. CSRS is cooperating with the Leopold Center in conducting a national conference in Ames during May on the development and implementation of the regional plans of work for the low-input program. CSRS funding on groundwater quality research is estimated at $5.7 million in 1988 and $5.1 million in 1989.

Question: Please provide some detail concerning the specific types of projects that are being funded in this area.

Answer: The plans of work and project proposals for the new low-input program being initiated in fiscal year 1988 are still being developed, therefore, it is not yet known which projects will be implemented. We do know, however, that an information study will be done, as called for in the law. The study will be conducted jointly by the National Agricultural Library and various universities and private organizations. A wide range of subject matter is included in the proposals now being prepared, including the use of legumes in crop rotations; application of manure, green manure crops, and sewage sludge on farms; biological and mechanical methods of controlling disease, insects and weeds; intercropping and overseeding of legume cover crops; integrating of crops with livestock systems, and much more. In our report, we will describe the projects that have been approved. Ongoing projects in the states contribute data on many components of the alternative systems. This large information base facilitates faster progress in new work being planned.

Examples of research on water quality include efforts to understand the reactions of agricultural chemicals in soils, how fast they move toward groundwater, and how much contamination originates with agricultural practices. Management strategies are being developed to improve the probability that farmers can use profitable techniques to avoid contamination from occurring, including improved soil testing and recommendations. A new emphasis is being put on systems that can apply variable rates of fertilizers and pesticides to different parts of a field based on soil and residue characteristics. There are numerous ideas showing promise, but progress is slow on difficult, and often critical, aspects of the innovative approaches.

THE FOOD AND INDUSTRIAL AGRICULTURAL PRODUCT CENTER

Question: How are plans proceeding to integrate the new National Center for Food and Industrial Agricultural Product Development at Iowa State University with the Department's existing product development center?

Answer: The feasibility study, completed in 1987, presented plans for the Center at Iowa State to concentrate on applied and developmental research and scale results through pilot plant, proof-of-concept demonstrations. The Iowa State Center will be able to place more emphasis on economic alternatives for new products and processes, identifying markets and demonstrating feasibility. When completed and staffed the Center at Iowa State University will cooperate with the four established ARS Regional Research Centers. Iowa State University has been contacted and asked to submit a proposal for the construction of the National Center for Food and Industrial Products from the 1988 fiscal year appropriation of $6,375,000. The award is anticipated about July.

INTERNATIONAL TRADE DEVELOPMENT CENTERS FOR AGRICULTURE

Question: How is the administration progressing in the implementation of the International Ag Trade Development Center program authorized in the 1985 Farm Bill?

Answer: Fiscal year 1986 and 1987 grants have been awarded by the Cooperative State Research Service to the centers at Oklahoma State University, Iowa State University and North Dakota State University. Guidelines for the preparation of new proposals or renewal of grants for International Trade Development Centers have been prepared and distributed to institutions who will receive grants. The proposed centers include the Mid-America World Trade Center in Wichita, Kansas; CINTRAFOR at the University of Washington; IMPACT at Washington State University; the University of Kentucky; and the previously authorized center at Oklahoma State University. A workshop is being organized for these trade center officials to facilitate the planning, coordination, and administration of their development and outreach programs.

Question: Why did the administration not request funding for these very important centers? Is it to be assumed that the development and enhancement of agricultural exports, based on regional strengths, is not a problem that merits attention or are we to consider that any and all initiatives started by the Congress are, regardless of their merit, not to be included in the President's budget request?

Answer: The administration is cognizant of the need to expand the exportation of agricultural commodities and related products in order to solve the trade deficit problem and enhance economic opportunities in rural America. This is an effort that does involve many Federal and regional, State, and local agencies. However, the Hatch Act formula and related base funded research programs constitute the core of the Federal-State partnership. The discretionary nature of the Hatch Act formula program allows State institutions to fund research in those areas that are judged to be of the highest priority.

AGRICULTURAL BIOTECHNOLOGY

Question: What are the Department's plans to work with the States in their developing efforts to greatly enhance agricultural biotechnology oriented research? It appears that many States, including Iowa, Illinois, North Carolina, New York, California, and others, are becoming heavily involved in investing in agricultural technology. Does the Federal government have plans to work with States in a cooperative way to ensure the viability of some of these programs?

Answer: The Cooperative State Research Service is very much interested in the developing efforts in agriculture biotechnology. CSRS has established a National Biological Impact Assessment Program --NBIAP-- to assist the universities' biotechnology programs implementing and expediting biotechnology research. This organization has a computer catalogue by locations of different types of research, possible sites for field trials and lists of individual biotechnology scientists. The establishment of NBIAP was recommended by the Biotechnology Committee of the National Association of State Universities and Land Grant Colleges for the specific purpose of working with states to assure the quality and safety of their biotechnology programs. We are requesting a special grant of $250,000 to enhance this program in 1989.

The Competitive Research Grants Program directly assists many institutions in most states by supporting biotechnology research projects. In addition, the Department has established an Office of Agricultural Biotechnology to coordinate research biosafety reviews and research review procedures. An Agriculture Biotechnology Research Advisory Committee has also been established to mobilize scientific expertise for developing recommendations on agricultural biotechnology research and policy at the national level.

AQUACULTURE RESEARCH CENTER

Question: Why does the President's budget not include any continuing support for the developing Aquaculture Research Center program? Is this not an important area of research?

Answer: In developing our 1989 budget, we placed the highest priority on the basic programs which support the Federal-Land grant partnership. We also propose funding for priority National programs in a range of competitive research grant categories and selected National interest special research grants. The discretionary nature of the base programs will allow States to direct those funds to aquaculture if that research is ranked as a high priority.

QUESTIONS SUBMITTED BY SENATOR COCHRAN

NON, LAND-GRANT UNIVERSITIES

Question: Dr. Jordan, you made reference in your statement to universities that are "not of the land-grant model". How much money is channeled through USDA to non, land-grant schools, etc.? How do you feel about this?

Answer: All colleges and universities are eligible to compete for grants under the Cooperative State Research Service Competitive Research Grants Program and the Forestry Competitive Grants Program. In fiscal year 1987 approximately $6.6 million was awarded to non land-grant colleges and universities. In addition, $21.1 million was added by Congress for facilities and earmarked grants at non land-grant institutions. It is to the advantage of agricultural research to draw on scientific talent wherever it may be found in solving the many serious problems facing agriculture.

STRATOSPHERIC OZONE

Question: Even though the CSRS budget request is some $46.0 million less than the amount appropriated last year, there is a request of $7.4 million to study the effects of the depletion of stratospheric ozone on crops. We are not used to seeing such a large request for a "new initiative". I'm aware of the international effort for further study of changes in stratospheric ozone, but your justifications don't give us much information about this. Could you please elaborate? Are our agricultural scientists interested in this? Also, are other federal agencies going to be involved in ozone studies? If so, which ones and to what extent?

Answer: The relatively large request for work on the consequences of stratospheric ozone depletion on plants reflects the urgent need to develop an understanding of possible deleterious effects on major crops and forest systems. The main problem is that we do not know precisely how our major crop and forest plants would be affected by the large increases in ultraviolet radiation, UV-B, that may result even from very small changes in the amount of ozone in the earth's stratosphere.

We know a great deal about the effects of UV radiation on animal cells, particularly as a result of concern about skin cancer in humans. Similar information is lacking about the effects of UV on plant cells and on productivity of our major crops in general. From laboratory experiments, we know that UV radiation is detrimental for a wide variety of plant species. We know that some important crops, e.g. tomato, sugar beets, onions, lettuce, etc., are among the most sensitive of plant species. We know that the plant's natural defenses against UV radiation, such as leaf waxes, pigments, and other organic molecules that absorb UV, and DNA repair mechanisms, are less effective at the shorter wavelengths and at increased doses of the UV-B range. There is a possibility that our major crops might be endangered because of increased UV radiation, but no one can predict the exact consequences of the changes in ozone levels in the stratosphere. It is in the national interest to implement a program of basic research which, perhaps 10 years down the road, can provide the means to ameliorate what may be an inevitable consequence of the emission into the upper atmosphere of contaminants from such things as supersonic aircraft engines, the use of certain propellants for pressurized can products, and industrial pollution.

Other agencies, including the Agricultural Research Service and the Environmental Protection Agency, will be involved in an overall program designed to monitor levels of ozone, UV radiation, etc., on a worldwide scale. We will be working with other agencies to assure full coordination of research plans. Because of the wide range of scientific expertise necessary, biometeorologists, physicists, chemists, physiologists, agronomists, etc., and the worldwide nature of the concern, the input from several agencies is required. A $7.4 million appropriation for the Competitive Research Grants program component would fund approximately 60 scientists at a level of $125,000 a year. Given the wide complexity of the problem and the different approaches that will have to be taken, the requested level is appropriate to begin addressing this urgent problem. For example, differences in sensitivity of plants to UV radiation have been attributed to differences in the optical properties of the epidermal layers. This needs to be confirmed by physiologists, biochemists, and plant geneticists. The results would be of benefit to plant improvement programs which are dependent on traditional breeding or modern gene transfer techniques. On a very different area of research, it is known that insects see in the near ultraviolet; thus, alteration in the quality of UV may affect their perception of flower colors, essential for pollination, sex recognition, etc. Work in this area would require close cooperation among biophysicists, entomologists, ecologists, chemists, and others.

HIGHER EDUCATION

Question: There is a great deal of concern in the research community about the lack of support and funding for programs which encourage students to prepare for careers in the food and agricultural sciences. I'm told agricultural colleges are finding it difficult to recruit and educate needed scientists and business representatives in the agricultural and natural resources areas. Secretary Bentley, do you share these concerns which are being expressed? Is this really a problem? Why is there so little support in the way of financial support from USDA and the budget?

Answer: The Department is quite concerned about the decreasing enrollments in food and agricultural science academic programs. Our Higher Education Programs office in the Cooperative State Research Service has developed baseline data relative to the food and agricultural sciences higher education system. The Department has recently become a co-sponsor of the National Science Foundation's (NSF) Doctorate Records Project and will be obtaining special analyses relative to Agriculture from those data. Additionally, we have successfully negotiated with the NSF to obtain information on their currently conducted Graduate Student Support Survey relative to USDA support for graduate students. The accumulation of these data and other data into the Food and Agricultural Education Information System enable the Department to estimate needs within academic disciplines and thus facilitate recruitment efforts aimed at assuring the Nation of outstanding food and agricultural sciences expertise. The Department has also cooperated with the Department of Education to co-sponsor a study by the National Academy of Sciences to critically examine vocational and technical education related to agriculture in secondary schools. This study is expected to improve the curricula related to agriculture and thereby create a desire among science oriented high school students to pursue and complete a degree in one of the food and agricultural sciences. Current USDA studies show the demand for scientists and professionals continues to exceed the available supply in several food and agricultural employment categories. For 1989, we are proposing focusing on higher education funds to support the Higher Education Strengthening Grants program for 1890 land-grant institutions. Support for the development of agricultural expertise will also be provided as an integral part of research conducted through the Competitive Research Grants program and through the provisions of the Hatch Act and related base formula funded programs.

Question: Are you familiar with a "competitive challenge grants" proposal which, I understand would provide for matching of federal funds with state/industry dollars? Do you support such an initiative?

Answer: The Department is aware of the proposal for such a program supported by almost 100 agribusiness executives with whom we have been in contact and the Resident Instruction Committee on Organization and Policy --RICOP-- which is the major organization representing the interests of the administrators of food and agricultural science academic programs at land-grant universities. The program would generate matching private and/or state funds to ameliorate targeted problems in the Nation's food and agricultural sciences higher education system. We are not recommending funds for this proposal in FY 1989.

GROUNDWATER RESEARCH

Questions: The State Agricultural Experiment Stations Committee has selected as its number one research initiative the maintenance and protection of water quality and quantity. We know that water is a significant cost factor in production, and both the quantity and quality of water available for agriculture are declining. I am told agriculture uses approximately 86 percent of the groundwater withdrawn, and half of the U.S. population depends on groundwater for drinking water. So, protection and efficient use of our water resources are crucial. What is the total request in the research and extension budgets for groundwater research? Is it sufficient? Do you consider this a high priority item?

Answer: CSRS funding on groundwater research is estimated at $5.7 million in 1988 and $5.1 million in 1989. ARS funding on groundwater is estimated at $9.9 million in 1988 and $13.9 million in 1989.

Funds are used by the State Agricultural Experiment Stations and other institutions for basic data gathering on selected chemicals in agriculture with emphasis on agriculture's current and potential impact on soil and groundwater degradation. Examples are: Efficiency in use and residual effects of pesticide and fertilizer nutrients in soils and water, irrigation management efficiency, and affects of soil and crop management on the need for applied chemicals and their fate.

The quality of ground water is a very important problem area for research because of society's dependence on it for drinking. It is further complicated because soils, substrata, aquifers, and other water bodies once contaminated remain affected for many years. We must learn through research the applicable characteristics of the chemical, biological, and physical components of agricultural production systems, and then develop management strategies to minimize detrimental effects in water.

Questions: Are you cooperating with any other federal agency (EPA or USGS) in the effort?

Answer: Yes, State Agricultural Experiment Stations enter into research agreements or receive grants from the Environmental Protection Agency and United States Geological Survey, whose scientists also cooperate with State scientists in regional research efforts and are involved in joint conferences and symposia. An interagency workshop on identifying and prioritizing research needs on water quality is being jointly planned for November 1988.

QUESTIONS SUBMITTED BY SENATOR McCLURE

FORMULA FUNDING VERSUS COMPETITIVE GRANTS

Question: The FY 1989 proposed budget causes concern for research and extension efforts in my home state and other states throughout the nation. It reduces those funds that have allowed each state to develop programs responsive to the needs of local people. This "grass-roots" approach made these programs locally useful to farmers and rural America. Maintaining funds at the current level or decreasing them could result in the elimination of these important programs because state budgets may not be able to absorb the costs of total programs or the inflationary increases on existing programs. In addition, the change in funding from formula to competitive grants raises concerns about the ability of small states and small programs to be competitive on a national level. Issues that are very important to the farmers of Idaho may not seem important from a national perspective. What is the rationale for maintaining the current level of funding for Hatch Act programs and reducing funds for Smith-Lever formula programs?

Answer: The decreased level of funding for Smith-Lever formula programs does not mean that extension effort in this area is reduced. The decrease of $13.1 million consists of two parts: first, the Administration is not requesting the $4 million provided by Congress in FY 1988 for increased FERS costs of state Extension workers, and second, the remaining $9.1 million is reallocated into the earmarked effort requested to address the Agricultural Competitiveness and Profitability National Initiative. Eighty percent ($7.7 million) of this proposal will be allocated back to the states under the Smith-Lever formula to support this initiative. The states will not end up with any significant reduction in formula program efforts.

Question: How can you assure me that smaller States or smaller programs will not be ignored in the Competitive Grants process?

Answer: All State Agricultural Experiment Stations, colleges, universities, other research institutions or organizations, Federal agencies, private organizations, corporations and individuals are eligible to compete for grants under the Competitive Research Grants Program. To assist in equitably and objectively evaluating grant proposals and to obtain the best possible balance of viewpoints the Department of Agriculture solicits the advice of peer scientists and others, who are recognized specialists in the research areas covered by the applications received, to review the proposals. The peer review group evaluates all proposals taking into account the following factors: scientific merit of the proposal; objectives and approach; human and physical resources; impact of anticipated results; probability of success of project; and projected economic feasibility for near-term application. Applications are ranked and support levels recommended within the limitation of total available funding for each program area. This thorough peer review process ensures a comprehensive and equitable evaluation of the grant proposals submitted by all applicants.

WATER ISSUES

Question: Water quality and quantity has been identified as the highest priority for research and extension programs for the last three years by the Joint Council on Agriculture. Water quality is a major concern to those of us in the West. The increasing competition for water will intensify the need for development of reliable information to be used in policy decisions. This information must also be delivered to potential users of the information through Agricultural Extension Service programs.

This year's budget request by the land-grant universities included $25 million for research (CSRS) and $15 million for Extension. The Administration's proposed budget for FY 1989 includes no increase for CSRS or Extension for water quality, although $5 million is identified for ARS. What is the rationale for this recommendation?

Answer: The FY 1989 budget reflects the reality of limited funds that could not address all funding proposals. Continued base funding of the Hatch Act provides individual Stations with flexibility to fund water quality research; there are also opportunities for regional research projects in this priority area.

Water quality has been identified as one of Extension's National Initiatives. As such, some portion of the $10 million proposal for Priority Initiative Projects may be used for specific water quality issues, in addition to some of our on-going efforts in this area.

Question: Why not provide the additional $5 million for land-grant or CSRS research instead of ARS?

Answer: Hatch Act and other base funds would be available to the land-grant institutions for this research.

AGRICULTURE PROFITABILITY VERSUS PRODUCTIVITY

Question: In the Administration's proposed budget, I noticed that CSRS funding for agricultural productivity research has been eliminated. At the same time, a new program for agriculture profitability is proposed for Extension at a level of $10 million dollars. If we eliminate agricultural productivity research, what information will the Extension Service be disseminating to farmers that will increase profits?

Answer: The base programs of research relevant to this area are expected to be continued. The $3.9 million appropriated in fiscal year 1988 under Subtitle C of Title XIV, Food Security Act of 1985 is the part proposed for elimination. The research information base for State Cooperative Extension Service to use includes parts of past and ongoing research projects being conducted by each State Agricultural Experiment Station and other institutions. Recently, the Cooperative State Research Service, in cooperation with Iowa State University, conducted an assessment of conventional and organic-related farming systems research underway at State experiment stations with funding from CSRS. The purpose was to determine how much of these research programs is applicable to the needs of producers using alternative systems as compared with the conventional procedures. Please note that although terms have somewhat different meanings, alternative, sustainable, organic, and low-input are more or less interchangeable. The results of this assessment indicated that $68.0 million is neutral to either alternative or conventional farming systems. Similarly, ARS estimates that $102.7 million is neutral to either alternative or conventional farming systems. Information from this ongoing research serves as the solid base for ongoing extension educational programs in these areas.

While the Extension Service strongly supports continued agricultural productivity research, U. S. agriculture is faced with vast amounts of data, information, and technology that are not now being integrated into profitable systems for use on our nation's farms. An important component of the new program for agricultural competitiveness and profitability within the Extension Service is the development of databases which will bring together the needed information into an easily accessible and usable form. This program will seek the cooperation of our nation's top expertise, private and public, and involve all states in a coordinated effort to make our best management decisions, utilizing production, management, marketing, and policy information available to the farmers and to those who help develop decision aids and management systems for farmers.

Question: By eliminating funding for CSRS agricultural productivity, will we have adequate research knowledge to justify are extension program of this magnitude?

Answer: Extension's programs in regard to the National Initiative on Agricultural Competitiveness and Profitability are not tied to the level of research efforts in CSRS. The $10 million requested is to fund educational programs already being planned and in some cases already initiated by most State Extension Services to respond to strong clientele demands in this area. Most of these projects were funded with resources redirected from other activities and new infusion of funds is required to continue such efforts.

SPECIAL RESEARCH GRANT

Question: I strongly support the Administration's proposed increase in funding for biotechnology. I believe this will go a long way toward improving American competitiveness in agriculture. However, funding for Special Research Grants has been drastically cut. In the case of the TCK Smut, Dark End Syndrome, Potato Research, Soil Erosion in the Pacific Northwest, and Integrated Pest Management programs, funding has been eliminated entirely. Are these programs no longer necessary or has research in these areas been completed? If not, how do you propose this research will be accomplished and who will conduct it?

Answer: Research grants funded under these Special Research Grants programs in fiscal year 1988 and prior years may be used over a period of up to five years for completion of the studies proposed in these grants. Also, if the State institutions identify these programs as high priority and wish to continue the research the discretionary nature of the Hatch Act formula and related base funded programs could provide for maintaining these programs. Our proposal for 1989 includes continued full funding for Hatch research.

RAPESEED

Question: Idaho has a long history of rapeseed production, growing a minimum of 5,000 acres over the past 40 years. The State is also fortunate to have an established, active integrated research program, and the interaction between the research programs and the industry is a model for other states and regions to follow. The FY 88 CSRS budget for Alternative Crops included $175,000 for research on crambe and rapeseed in Iowa, Kansas, Michigan, New Mexico, and Idaho. How much of this total did Idaho receive?

Answer: The work of Idaho on rapeseed is well recognized and representatives from the Idaho Agricultural Experiment Station were included in the High Erucic Acid Workshop of December 1986. Dr. Gary Lee, Director of the Idaho Agricultural Experiment Station, is a member of the Management Committee that directs the efforts of the High Erucic Acid project of Iowa, Kansas, Missouri, New Mexico, and Idaho. The Management Committee and the Director of the Critical Materials Office will decide how the $175,000 appropriated in fiscal year 1988 will be allocated among the states. The major concern is to direct resources to the most pressing problems for developing a market for erucic acid whether from rapeseed or crambe. Each state will receive funding to conduct a project or projects deemed appropriate by the Management Committee. The program budget is now being developed and the exact amount for Idaho is not yet available; however, there will be an agreement among the states concerning the allocation of funding.

Question: The Cooperative State Research Service Office of Critical Materials has planned a project to develop the production technology and new industrial uses for high erucic acid producing crambe and rapeseed. In view of the proposed cuts in funding for Alternative Crops research, will money be available to continue this research?

Answer: The fiscal year 1989 budget requests $250,000 for crambe and rapeseed projects.

ANIMAL AND PEST RESEARCH

Question: A major research concern in Idaho and other Western States is the health of plants and animals. Methods are needed to control pests in order to lower the cost of producing agricultural outputs and allow a high competitiveness of American farmers. The proposed budget does not include any funding for pest management or animal health and disease. It also eliminates competitive grants (Sec. 2b) for pest sciences. What is the logic that leads to a conclusion that these programs are no longer necessary?

Answer: Due to the discretionary nature of the Hatch Act formula and related base funded programs, amounts allotted to State institutions permit them to fund research in these and other areas that they identify as high priority. This flexibility could provide for maintaining these programs if the State institutions wish to continue the research. Also the Biotechnology, Plant Science and Animal Science categories in the Competitive Research Grants program offer opportunities for supporting animal and pest research. We are proposing increases for these programs. Ongoing ARS research in these areas will also be continued.

AQUACULTURE RESEARCH

Question: Not long ago we were discussing the great potential for aquaculture as an opportunity for increasing productivity and income in rural America. This proposed budget eliminates funding for aquaculture research. Has research in this area been concluded?

Answer: Although specific research projects have been concluded, there are others which are ongoing. These projects have enhanced the scientific and technical base for this rapidly expanding industry. We are proposing continued funding for a project to develop hybrid striped bass as an alternate crop. Aquaculture research will be continued in 1989 at an estimated level of $3.0 million through the Hatch Act and other formula programs.

Question: What are the conclusions?

Answer: In general these studies have led to improved production efficiency through diet formulation, reproduction and breeding, disease and parasite control, and improved water quality management. Research has led to a better understanding of artificial methods to control reproduction in several commercially important species such as catfish, trout, and sturgeon. Several diseases and fish health problems affecting the industry such as IHN virus in trout have been studied as well as methods to improve detection and diagnosis of diseases of catfish, trout, and salmonids. The effects of dietary lipids on fatty acid content and flavor in cultured species have been determined as well as diet formulations for trout, catfish, crawfish, and prawns. Techniques for the production of polyploid catfish and trout have been developed in order to genetically improve aquaculture stocks.

QUESTION SUBMITTED BY SENATOR KASTEN

NATIONAL AGRICULTURAL RESEARCH AND EXTENSION USERS ADVISORY BOARD

Question: Mr. Jordan, I understand that Dr. William E. Marshall has been removed as Co-Chairman of the National Agricultural Research and Extension Users Advisory Board. It is further my understanding that during his tenure on the Board Dr. Marshall provided energetic and able leadership in enabling the Board to fulfill its purpose of giving an independent perspective on USDA research and Extension activities. What were the reasons for, and the circumstances surrounding, Dr. Marshall's dismissal? Did there or does there exist any reason why he could not have been allowed to fill out the remainder of his term?

Answer: Dr. William Marshall has been a dedicated member of the National Agricultural Research and Extension Users Advisory Board for three consecutive terms. The Federal Advisory Committee Act states that a person can serve a maximum of three terms on an advisory committee whose members are appointed by the Secretary. This policy assures continuity as well as a timely turnover. Therefore, under the Act, Dr. Marshall could not continue to serve in that position.

As chairman of the UAB, Dr. Marshall provided effective leadership through his broad understanding of agricultural issues and their impact on the future of this nation. Upon Assistant Secretary Bentley's request, Dr. Marshall has agreed to serve as an ex-officio member of the Board through the August 1988 meeting to assist in the transition of new leadership.

QUESTIONS SUBMITTED BY SENATOR HATFIELD

WESTERN REGIONAL WHEAT MARKETING CENTER

Question: Over the past two years, we have appropriated $6.9 million for the Western Regional Marketing Center in Portland, Oregon. I continue to be very supportive of the construction of the Center and the pre-program development activities which have been outlined to me. What progress has been made toward the opening of the Center?

Answer: A non-profit corporation, Wheat Marketing Center, Inc. has been formed to be the legal custodian and conduct the business of the Center. Wheat Marketing Center, Inc. developed a process for evaluating potential sites, evaluated and selected a site and is now in the process of negotiating the final memorandum of understanding and signing a contract with the property owner. The proposal for the $6.0 million appropriated in fiscal year 1988 has been solicited from Oregon State University and should be obligated by June 1988.

Question: Of the total appropriation, what amount is budgeted for the feasibility study? Capital construction? Pre-program development activities?

Answer: The initial $900,000 was budgeted for construction and equipment. Plans for the Center included sizable estimates for equipping the wheat products laboratory and purchasing computer equipment. The $6.0 million available in FY 1988 will be budgeted to the construction of the center. Wheat Marketing Center Inc., WMCI, and Oregon State University have pre-program development plans for six individual initiatives in program development that total $250,000. However, both the initial funding and FY 1988 funds were appropriated for construction; any program funds must directly support improving and enhancing facility design and construction.

Question: What is Cooperative State Research Service doing to facilitate the pre-program development activities?

Answer: Cooperative State Research Service insisted that the original proposal contain preliminary program plans as well as plans for how the WMCI would cooperate with and coordinate other public and private interests in wheat and related products marketing. We are supportive of these more specific pre-program plans and commend the principals involved for their advance planning. Programs will have a major impact on the commercial success of the Center, and advanced program planning would appear to be a prudent decision. CSRS will continue to cooperate with WMCI and Oregon State University to try to find ways of funding the pre-program planning effort. Twenty percent of the project costs of this public/private, nonprofit enterprise will be provided by non-Federal funds. These funds could be made available for pre-program activities.

Question: In addition to wheat, the Center should serve as a marketing facility for other regional commodities. What other commodities seem to fit the concept outlined for the Center?

Answer: The Northwest is especially rich in both food and non-food specialty agricultural products, small fruits and forage-crop seed for example, that would appear to be compatible with the objectives of the WMCI. There is the potential for including value added agricultural products. However, there appears to be an opportunity for regional cooperation and specialization because other Centers in the Northwest either have or are planning marketing programs in selected products.

Question: Because the center will be actively involved in agricultural trade, some federal agencies may be appropriately housed in the facility. Please identify federal agencies which would complement the activities of the Center.

Answer: In a generic sense, any agency, Federal or State, that has programs related to quality or health control and inspection, dispersal of pests, financing, movement or transportation of agricultural commodities and products would appear to complement the Center's activities.

POTATO RESEARCH

Question: What potato research activities took place in the three Pacific Northwest States last year?

Answer: Under the Special Research Grant program potato lines from the USDA-ARS germplasm enhancement program at Aberdeen, Idaho, were selected by the Idaho State Agricultural Experiment Station, based on their external appearance, internal quality factors, storage life, disease and insect resistance and production characteristic for evaluation trials under Idaho growing conditions. Transplants derived from promising seedling tubers and tissue cultured plantlets derived from excised sprout tips were directly field tested at the Oregon State Agricultural Experiment Station to provide disease free seed for further testing. Recently released cultivars were grown under a variety of cultural conditions at the Washington State Agricultural Experiment Station to determine their yield, quality, processability, storeability and other parameters known to be influenced by either climate or cultural practices.

Question: What results were produced by that research?

Answer: Several new and promising cultivars were evaluated at different locations in the tri-state area to determine their performance under different cultural and climatic conditions prior to decisions being made about their release as processing and fresh market potato varieties for the trade.

Question: Dark end syndrome, which attacks potatoes in Eastern Oregon, lessens the marketability of potatoes. What are the economic consequences of failing to eradicate dark end syndrome? Is the current funding level adequate to meet this goal?

Answer: Dark end syndrome is a problem that manifests itself during processing and results in the ends of french fries turning brown and shriveling up. Dark end occurs as a result of certain specific climate and soil interactions and is limited generally to an area in eastern Oregon. There is evidence that summer irrigation may reduce or eliminate the problem. Although special grant funding is not proposed for this research, ARS is devoting about $506,000 to this research area. Research can also be funded at the State level using Hatch, State or private funding sources.

EXTENSION SERVICE

QUESTIONS SUBMITTED BY SENATOR BURDICK

Question: With the completion of the two year long effort of the Extension Service and the Extension Committee on Organization and Policy (ECOP), the National Priority Initiatives have found their way into the fiscal year 1989 budget.

I am pleased to see the reorientation of Extension programs toward the future potential of rural communities. Using and developing our natural and human resources is the best way to ensure the profitability of agriculture in the years to come. Dr. Johnsrud, would you please explain for the Committee the distinctions between the Priority Initiatives Projects and the Agriculture Competitiveness and Profitability Projects.

Answer: Funds for the Priority Initiatives Projects are being requested to facilitate Extension's nationwide effort at refocusing resources on National priorities and related key issues, as identified by the National Initiatives effort. These funds may be focused on any or all of the Initiatives.

The $10 million for Competitiveness and Profitability of Agriculture is requested to fund educational programs already being planned by State Extension Services to respond to strong clientele demands in this area. Due to the enormity of this issue and the need to focus on long-term solutions, this proposal is requested over and above the Priority Initiatives package.

Question: What is the rationale for terminating the Smith-Lever funds under the Section 3(c) and instituting the new priority programs under Section (d) of Smith-Lever?

Answer: The basic rationale is to be able to target resources at specific problems, in line with the National Initiatives effort which has been developed by the Extension System. The earmarking provision under Section 3(d) allows us to focus such resources on specific national problems.

Question: If the full $22,000,000 for the new priority programs is provided in 1989, what will the match contribution of state and local governments be?

Answer: With the exception of the funds used for the administration of the program (4%), all of the proposed funds would require matching.

Question: Will funding be contingent on meeting match requirements ?

Answer: Yes. Matching funds from non-Federal sources would be required in order for the states to receive these proposed funds.

Question: If these programs were funded under Section 3(c), would matched funds be necessary?

Answer: Yes. The formula for the allocation of funds under Section 3(c) of the Smith-Lever Act does require matching contributions from our state and local partners.

RURAL REVITALIZATION

Question: The Extension Service budget for fiscal year 1989 includes a six-point plan for revitalizing rural America. This plan would devise methods for increasing competitiveness of rural areas, expanding its income base, developing cost-effective means for meeting community needs, and encouraging investment in rural resources.

Extension has a unique network to rural America, and it is my belief that Extension offers a viable plan for rural revitalization. I am concerned, however, about the budgetary constraints presented in the fiscal year 1989 budget.

For Rural Revitalization, Extension would provide $2,000,000 to be matched by the states for a total of $4,000,000. The Explanatory Notes provided by the Department state that "These efforts will be supported by existing regional Rural Development Centers, several Rural Technology Centers, and by a national rural information center." Since no funding is provided for the five regional Rural Development Centers in the fiscal year 1989 budget, how can they be assumed as an integral part of the revitalization plan?

Answer: We expect that the States will continue to provide the support for the Centers to continue their programs through other non-earmarked sources of funds.

Question: I assume the Rural Technology Centers referred to in this same citation, are those funded under the Extension Service. Please elaborate for me how, without funding in fiscal year 1989, these technology centers could be a part of the revitalization effort?

Answer: The Rural Technology Centers referred to in the Explanatory Notes are planned under the Secretary's Six-Point Rural Regeneration Initiative. They are not established at this time. Funding for the Centers may involve several of the USDA agencies working with the Secretary's program.

Question: Please describe the function of the Rural Information Center, its location and funding base. How will it be involved in revitalization efforts?

Answer: The Rural Information Center (RIC) is a joint information and referral project of the Extension Service and the National Agricultural Library. It functions in support of the USDA Rural Regeneration effort by quickly providing easily accessible information to even the most remote rural community for use by rural public decision-makers. It is jointly funded by Extension and NAL.

RIC is located at the National Agricultural Library in Beltsville, Maryland, and combines the technical expertise of the Extension educational network with the information resources of the

Library. Information is available to public officials (local, state, and national) on how rural communities can maintain a competitive, diversified rural economy; can develop rural local government services, facilities, and the ability to support them; and can enhance local public decision-making efforts to deal with structural change, RIC staff draw upon Library resources (books, journals, study reports, program manuals) and over 300 existing online databases to provide the information and referral service. Extension provides the rural outreach, program expertise and follow-up assistance to deal with the RIC information.

Question: Is it possible, considering the elimination of some programs under Extension, that the earmark of $2,000,000 for Rural Revitalization might be viewed as a "shift" in resources, rather than an actual increase in funding?

Answer: The $2 million Rural Revitalization proposal is intended to focus Extension programs on this critical issue and in that sense might be viewed as a shift of resources.

FINANCIAL MANAGEMENT PROGRAM

Question: The fiscal year 1989 budget would eliminate funds for Financial Management Assistance provided to farmers over the past two fiscal years.

Extension Service projects in 25 states benefited through the competitive grants offered under the Financial Management Program, helping farmers to develop financial plans and other methods for coping with stressful times. How would the Extension Service incorporate Financial Management Assistance into its overall national initiatives?

Answer: Assisting farmers to analyze and make decisions on farm financial management problems, to improve their farm financial management skills, and to more effectively utilize farm financial management tools will be a basic and vital part of the National Initiatives programming. Extension has been expanding its programs which provide farm financial management assistance as we move from a crisis phase into long-term, sustainable, competitive American agriculture utilizing current marketing potentials, alternative agricultural opportunities, and low-input agriculture where appropriate.

Question: Would the same 25 states receive funds equal to or greater than offered under the Financial Management Program to aid distressed farmers?

Answer: Under the formula provision of the proposed increase for Agricultural Competitiveness and Profitability, which distributes $7.7 million, all these states would receive funds in excess of their portion of the $1.4 million earmarked efforts. How much would go to specifically aid the distressed farmers aspect of the initiative would be determined by the States.

Question: How much of the Extension Service budget for Priority Initiatives would be allocated to counseling and management services such as those provided under Section 1440 and the Financial Management Program?

Answer: We are not certain at this time how much of the Priority Initiatives program will be allocated for farmer counseling or management assistance. We expect that the Competitiveness and Profitability Initiative would also be a source of funds. States will have the option to focus on this specific issue.

EXPANDED FOOD AND NUTRITION EDUCATION PROGRAM (EFNEP)

Question: One of the national issues that Extension has identified for priority is improving nutrition, diet and health. Yet, the Expanded Food and Nutrition Education Program (EFNEP) is slated for a reduction in funds of $36,524,000. Will more of the Section 3(d) funds be allocated for nutrition, diet, and health. above the $22,111,000 remaining for EFNEP?

Answer: It is realistic to envision that some of our $10 million proposal in FY 1989 for Priority Initiatives Projects which is requested under Sec. 3(d) would be allocated for Nutrition, Diet, and Health programs since it has been identified as one of our National Priority Initiatives by both our cooperators and users.

Question: Why has the youth component been selected as the key focus of EFNEP in 1989?

Answer: Although the major focus for EFNEP would remain on young homemakers with children, a portion of the program would target youth. With the increased number of children born to teenage mothers and the number of single households in poverty headed by single females, the EFNEP outreach to the youth audience is critical. Every effort will be made to attract other public and private resources, including volunteers, that will extend the number of EFNEP youth who can learn nutrition and also learn to play more responsible and productive adult roles as they become parents.

APPROPRIATE TECHNOLOGY TRANSFER FOR RURAL AREAS (ATTRA)

Question: The President's fiscal year 1989 budget would eliminate funds for the Appropriate Technology Transfer for Rural Areas (ATTRA). In fiscal year 1988, Congress appropriated $750,000 for ATTRA to develop its on-line data bases, to hire staff, and to become fully operational. How is ATTRA proceeding with its plans to become fully operational?

Answer: ATTRA is proceeding at a satisfactory level to become fully operational. It now has a staff of ten technicians and two support personnel and has been answering queries since July 1987.

Question: How does ATTRA integrate its services with those of the Rural Information Center?

Answer: There is very little duplication of effort, if any, between ATTRA and RIC. ATTRA deals mainly with providing answers on low-input technologies and pest and weed management. RIC is a data base targeted to elected or government officials dealing with rural economic development.

Question: For what information has ATTRA become a reliable source that is not obtainable through another national center?

Answer: At this time no specific category of information can be identified as unique to ATTRA.

SECTION 1440 GRANTS

Question: The proposed budget for the Extension Service would terminate special grants for financially stressed and dislocated farmers that were initiated as part of the 1985 Farm Bill.

Last December, the President signed legislation that expanded Section 1440 authority to allow for broader application of counseling and outreach to farmers and their families. In the present climate of concern for the American farmer, please explain how the Extension Service would provide comparable assistance to the areas now served by Section 1440 and be able to accommodate more requests for assistance as designated by the new law?

Answer: The Cooperative Extension Service is now providing matching funds to the Section 1440 program in the eight demonstration states. In many other states Extension is also providing crisis intervention services and assistance in developing alternative income opportunities for financially distressed farm families. It is expected that these programs, in cooperation with state and local mental health and job training service providers, will continue beyond the termination of the Section 1440 earmarked funding.

Question: What specific initiative does the Extension Service have in mind to help farmers and their families through the difficult and trying times associated with giving up their farms, beginning new careers, or reorganizing their current operations?

Answer: Four of the eight National Extension initiatives will direct some of their efforts toward helping farm families through these difficult and trying times. The $10 million Agricultural Competitiveness and Profitability Initiative will give primary emphasis to the increased profitability of farming operations through reorganization of current operations. The $2 million Rural Revitalization Initiative will focus attention on generating and sustaining real economic growth in rural areas through increased job creation, business and enterprise development, income generation, and revenue increased for local governments. Alternative agricultural opportunities and family and economic well being efforts would also be sources of assistance in these efforts.

PESTICIDE IMPACT ASSESSMENT AND INTEGRATED PEST MANAGEMENT

Question: The Extension budget includes an addition of $947,000 over fiscal year 1988 levels for the Pesticide Impact Assessments required to reregister pesticides commonly used in agriculture. It is noted that this funding is necessary, particularly, in light of recent concern about pesticides in groundwater, residues in food, and the livelihood of endangered species. The Integrated Pest Management Program provides education for the development and maintenance of agricultural production systems that reduce production costs due to unnecessary pesticide use. Why does the budget propose elimination of the $7,164,000 appropriated in fiscal year 1988 for Pest Management, even though the Department acknowledges that there is grave concern about pesticide use?

Answer: The Pest Management program has contributed to solutions for problems involving pesticides. We believe the highest priority components of the IPM programs will be continued with discretionary funds available to states.

Question: How does the Extension Service reconcile its position on increasing funding for the Pesticide Impact Assessment Program, while reducing funds for Pest Management?

Answer: Because the NAPIAP must respond to regulatory issues at the National level, we believe it is necessary to earmark additional funds to meet the increasing requirements of this program. It would be inappropriate to expect that state and local units will increase their contributions for NAPIAP at the level required to meet anticipated USDA commitments.

Question: Last year, the Department informed the Committee that $273,000,000 in profits were achieved as a result of Integrated Pest Management (IPM). Is not IPM a wise investment for the farmer?

Answer: IPM programs, currently funded from all levels, are a wise investment for individual farmers as well as for the general public.

Question: Will the Extension Service be offering IPM programs under its new National Priority Initiative Programs?

Answer: We do expect that the personnel, ideas, and programs which currently comprise IPM will be important building blocks for the Initiatives.

RENEWABLE RESOURCES EXTENSION ACT (RREA)

Question: Since the Renewable Resources Extension Act became law in 1978, has there ever been sufficient funds to provide landowners assistance in all 50 states?

Answer: Beginning in FY 1988, all 50 States are receiving RREA funds to support expanded programming for natural resources. In developing the second 5-year National Plan for Renewable Resources Extension programs, the states identified continuing unmet needs and program opportunities.

Question: Is the Department currently using the additional $387,000 in funds to expand the RREA program into all 50 states as intended by Congress in the fiscal year 1988 Continuing Resolution? How are these funds being used? Please provide a state breakdown.

Answer: In response to the direction provided by the Congress, the Department has allocated these resources to those seven States that were not included in the past and increased the base program level for others. The primary strategy and highest priority is to establish a base program effort in each state. Through the use of a state RREA Advisory Committee each state will identify and prioritize its program needs and opportunities. Depending upon these priorities, programs that address forestland management, rangeland management, fish and wildlife management, outdoor recreation, and environmental management and renewable resources public policy issues will be developed and delivered. The primary audiences are the owners, managers and users of forest, range and related resources. The following table provides a state breakdown of how the funds have been distributed:

FY 1988 RREA STATE ALLOCATIONS

STATES RANKED	1987 ALLOCATION	1988 ALLOCATION
Georgia	89,000	89,000
California	87,395	87,395
Texas	85,791	85,791
North Carolina	84,186	84,186
Alabama	82,581	82,581
Oregon	80,977	80,977
New York	79,372	79,372
Pennsylvania	77,767	77,767
Virginia	76,163	76,163
Mississippi	74,558	74,558
Washington	72,953	72,953
Arkansas	71,349	71,349
Louisiana	69,744	69,744
Michigan	68,140	68,140
Florida	66,535	66,535
Tennessee	64,930	64,930
South Carolina	63,326	63,326
Wisconsin	61,721	61,721
Missouri	61,721	61,721
Kentucky	58,512	58,512
Maine	56,907	56,907
West Virginia	55,302	55,302
Montana	53,698	53,698
Ohio	52,093	52,093
Illinois	50,488	50,488
Minnesota	48,884	48,884
Idaho	47,279	47,279
Colorado	45,674	45,674
New Mexico	44,070	44,070
Alaska	42,465	42,465
Indiana	40,860	40,860
Arizona	39,256	39,256
Massachusetts	37,651	38,746
Oklahoma	36,047	38,746
New Jersey	34,442	38,746
Wyoming	32,837	38,746
Nevada	31,233	38,746
Utah	29,628	38,746

New Hampshire	28,023	38,746
Maryland	26,419	38,746
Vermont	24,814	38,746
Kansas	23,209	38,746
Nebraska	21,605	38,746
Connecticut	--	38,746
Iowa	--	38,746
South Dakota	--	38,746
North Dakota	--	38,746
Hawaii	--	38,746
Rhode Island	--	38,746
Delaware	--	38,746

Question: For what reason does the Department's budget proposal not include funding for RREA programs in 1989? Are not forestry and woodland resource programs considered necessary by the Department?

Answer: Forestry and woodland resource programs, as well as other programs that deal with natural resources are important to the Department. The Renewable Resources Extension Act appropriations have assisted States in supporting these types of programs in the Cooperative Extension System. Other sources of non-earmarked funds could be available to support these efforts.

Question: Will efforts be made under the Extension Service's Priority Initiatives to treat woodlands as under RREA?

Answer: The Priority Initiatives are designed to address important issues facing the nation including those involving woodland resources. We would anticipate that such forestry and woodland resource issues would be addressed by states through the Priority Initiatives. Efforts would be targeted at priority issues in a manner that will support meritorious projects with broad regional or national implications; funds will not be specifically earmarked or targeted for forestry or woodland efforts.

EXTENSION SPECIAL PROGRAMS

Question: What recent progress (1987) has been made on the Integrated Reproductive Management System in Nebraska? Why does the budget propose to eliminate this project? Would there be any reason for continuing the project?

Answer: Integrated Reproductive Management has been renamed by the livestock industry and is now known as Integrated Resource Management. The natural evolution of this project has now focused efforts on the assessment of total farm operation. The project has recently achieved a level of developing solid producer data bases, for long-term planning and agent training to extend the program. It is expected that resources from State cooperators and the private sector will assist in continuing this program.

Question: Please describe the Rural Enterprises Initiative that Extension Service is conducting in Oklahoma and its specific successes for farmers in that state? If this project were terminated, what would be the impact on the state of Oklahoma?

Answer: Oklahoma Cooperative Extension and Rural Enterprises, Inc., are jointly undertaking long-term economic development projects such as: (1) Operating industrial incubator facilities, through an alliance with Oklahoma's vocational education system; (2) Evaluating innovations to be licensed as new products; (3) Identifying with Cooperative Extension technologies that improve the profitability of existing businesses and productivity of local governments; (4) Providing financial assistance through loan packaging; and (5) Assisting in contract procurement assistance by referring entrepreneurs to the appropriate bid assistance center.

Specific successes, in addition to incubator activities include creation of 17 positions with the Great Body Co. and expansion of that work force as rapidly as new people can be trained. Also new products and process ideas have been made available to entrepreneurs in Oklahoma.

We anticipate that the enterprise could still provide for these developments with non federal funding.

Question: Two Technology Transfer Projects are funded in Mississippi and Oklahoma that are slated for termination in fiscal year 1989. What is the recent status of these projects; what specific industries have they assisted; how would, and is it necessary that, ongoing initiatives be continued?

Answer: Oklahoma Extension employs a technology agent that is currently working with the aquaculture industry on filtration technology and with the industry on hazardous waste alternatives utilizing technologies like "in situ vitrification."

The Mississippi Food and Fiber Center has introduced new technologies associated with value added processes and marketing for small businesses and industries. Crop modeling with expert systems is one of the newest management technologies relative to production agriculture. The program also includes technology transfer of microcomputer technology to small towns and rural county governments.

In Mississippi the plan of work provides for the continuation of three successful ongoing programs carried over from previous years. These include introduction of new technologies associated with value added processes and marketing for small businesses and industries by the Food and Fiber Center, demonstrations of microcomputer technology to small towns and rural county governments by Community Development specialists, and the evaluation of computer systems networks from national databases to county Extension offices by the Computer Services Department.

Crop modeling with expert systems is one of the newest management technologies relative to production agriculture. The COMAX-GOSSYM system, a cotton growth simulation program developed by the USDA-ARS Crop Simulation Lab at Mississippi State University, will be pilot tested with a limited number of growers throughout the cotton growing states. Computer Services, through Technology Transfer and other funding sources, will conduct computer hardware/software educational programs in Mississippi for growers, agribusinesses, and MCES employees relative to COMAX-GOSSYM and other crop modeling programs as they become available.

We anticipate that these projects would be continued from other funding sources.

Question: How are these incorporated into the National Priorities for Extension?

Answer: These specific projects are not proposed for funding under the National Initiatives. Results from the projects will contribute to focusing programs to meet the issue of technology transfer within the national initiatives.

SPECIAL PROJECTS

Question: Has the Extension Service issued the pesticides handbook as instructed in the fiscal year 1988 appropriations legislation?

Answer: This handbook has not been issued, but we are working with the wheat industry and our cooperators to assure its appropriate and timely completion.

FARM SAFETY

Question: In 1986, about 1,700 people lost their lives and 170,000 were permanently disabled as a result of farm accidents.

These startling figures establish conclusively that farming is one of the most hazardous occupations. Understanding this fact, why has the Extension Service budget not included the $970,000 for Farm Safety Programs that was appropriated in fiscal year 1988?

Answer: We have focused on funding for priority national initiatives projects which are being developed with input from a broad spectrum of extension, producer, and consumer interests. Other non-earmarked sources of funds could be used to continue farm safety efforts.

Question: Does the Extension Service have another program in mind for assuring that farmers have access to Farm Safety education and assistance?

Answer: The Federal portion provides only a small part of the resources targeted for farm safety programs throughout the nation. It is realistic to expect that these programs will continue to provide the access needed for farm safety assistance.

1890 COLLEGES AND TUSKEGEE UNIVERSITY

Question: The Explanatory Notes mention that some states are providing 1890 institutions with upgraded facilities. What states are these?

Answer: A portion of the administrative staffs of the 1890 Extension programs in Fort Valley State College in Georgia and Prairie View A&M University in Texas have moved into new office space within the past few years. In both cases, the Extension staff shares offices and facilities with other programs of the university.

Question: Without additional funds, what will the remaining 1890 institutions do to upgrade their facilities?

Answer: The 1890 programs are almost entirely funded from the Federal appropriations and without specific funding for facilities they will probably not be able to achieve upgrading of current office, work or demonstration space.

DISTRICT OF COLUMBIA

Question: What is the purpose of the increase of $35,000 noted in the budget for the Extension Service for the District of Columbia?

Answer: The D.C. Cooperative Extension Service, along with the 1862 Colleges and 1890 Colleges, makes up the core of the Cooperative Extension System. The $35,000 increase will allow the D.C. Cooperative Extension Service to continue and to expand its current programs, as the 1862 Colleges and the 1890 Colleges were able to do with the increases they received in FY 1988.

Question: For what specific projects will these funds be used?

Answer: The D.C. Cooperative Extension Service is the only unit in the national system that conducts Extension programs strictly for the benefit of urban clientele groups. Rather then funding any specific projects, these funds will be used for all of D.C.'s programs, which are concentrated on the development of necessary skills to help inner city low-income and needy residents cope with daily life.

CONSERVATION PLANS

Question: Dr. Johnsrud, I understand that the Extension Service and the Soil Conservation Service have recently signed a Memorandum of Understanding outlining each Agency's role in education and technical efforts under the Conservation Title of the 1985 Farm Bill. Can you tell me -- under the Memorandum of Understanding -- what education and technical assistance activities will be the responsibility of the Extension Service?

Answer: The Cooperative Extension System (CES) responsibility is to coordinate the information and education activities of the Department. State Extension specialists in such disciplines as Agronomy, Economics, Fish and Wildlife, Forestry, Range, Soils, and Soil and Water Conservation will assist with both the information and education effort, as well as serve on technical assistance teams. As an example, Illinois Extension developed a training package for national application in assisting farm owners and operators to learn to develop components of their farm conservation plans. By 1990, about 800,000 farmers will need to have SCS-approved conservation plans for their highly erodible land.

Question: Have you begun any of those educational programs yet? Can you tell us what your timetable is for having these education and information programs developed and in place?

Answer: Yes, Extension has been providing this type of assistance. As part of our recent Memorandum of Understanding, State Directors have been asked to evaluate and accelerate programs. Additionally, the Memorandum encourages SCS at the State level to provide resources for coordinated efforts with Extension programs. These educational programs are being developed, implemented and provided to our clientele. We expect to have this program in place by December 1989.

Question: This type of work will obviously require funding. Have you asked for funding for these activities, or do you anticipate a transfer of funds from SCS to Extension for these activities?

Answer: States have been asked to redirect funds from their on-going programs to help with this effort. Some states have been able to do this. The State Extension Directors and Administrators of 1890 Institutions and Tuskegee Unviersity have been encouraged and authorized to negotiate reimbursable agreements with SCS State Conservationists to support more intensive education programs.

Question: How much have you or SCS requested for this work? Do you think it will be sufficient?

Answer: Extension work in this area will be funded at this time through ongoing programs.

QUESTIONS SUBMITTED BY SENATOR SASSER

Question: I am quite concerned about water quality and the effects of agricultural runoff. I have seen a report prepared by the National Association of State Universities and Land Grant Colleges which you may be familiar with, as it proposes water quality projects for the Cooperative State Research Service and the Extension Service. They propose $25 million for grants to be awarded competitively through CSRS for groundwater research. This research would entail studies of sources of pollution and prevention measures leading to information relative to technical applications and water management.

The report further proposes a $15 million program for the Extension Service to develop educational programs related to water resources and the impact of agricultural operations. This proposal seems to have taken some of the announced initiatives of the Cooperative Extension Service and put them into a program. First of all, are you aware of the proposal, and secondly, do you believe that it can be effectively put into place? Is there room in the budget for such a program?

Answer: Yes, CSRS is aware of the proposal. The expertise, experience, number of agricultural scientists, and facilities are more than sufficient to effectively and efficiently carry out the proposed program. Also, these scientists are dispersed throughout the agricultural production areas of the United States, which places them at locations where problems of soil and water contamination are a concern, and where such problems must be resolved. Hatch Act funds are available to fund this research.

In the Extension area, there are ongoing efforts to provide information and educate clientele about the importance of groundwater and surface water. Some states have already started an action program. Moreover, projects would be eligible for consideration under our priority initiative proposals.

Question: The proposal made by the National Association of State Universities and Land Grant Colleges only accounts for groundwater research and education. Obviously, we have some severe problems with surface water, as well. The Extension Service has made water quality one of its top priorities, and I am pleased to see this focus. While many states have implemented regulations, I understand that there are currently no national guidelines which would control agricultural runoff and thereby help to reduce water pollution. This places a heavy burden on educating farmers and ranchers on appropriate methods of preventing contamination of water supplies.

Does the Department of Agriculture have a specific education program in this area? Is there sufficient manpower and funding within the Extension Service to meet this need? If not, what can we do to ensure that all agricultural operations will come into compliance?

Answer: Within USDA there is no specific education program on water quality as readily identifiable as the IPM or Pesticide Impact efforts. However, the Extension Service has identified Water Quality as a National Priority Initiative, and the Cooperative Extension System has responded in a positive and vigorous way. For example, Extension works on reducing soil erosion yields, providing significant benefits in terms of surface water quality improvement. Currently, Extension is focusing staffing and federal funds on this issue by providing national leadership and coordination to the States. Our proposal to fund development of priority initiatives in 1989 would support this effort.

The Cooperative Extension System is involved in education programs about the Conservation Reserve Program of the Food Security Act. While these programs do not directly address water quality issues, the protection of such erodible soils will reduce sediment loads and their associated contaminants to surface waters. Education is less onerous, less expensive, and more equitable than regulation. We also believe the Cooperative Extension System can help people to understand that it is in their best interest to adopt reasonable practices to protect our water resources.

Question: The Administration is advocating $2 million for Rural Revitalization through an initiative to develop an information center at the National Agricultural Library. This would provide a database for farmers and rural communities, accessible through a toll free line, to acquire information on the most advanced technologies and information available. Now, this is a great idea, and I support it wholeheartedly. As a matter of fact, I have been promoting this idea for the past three years, and it is about time the Administration realized this need.

Interestingly enough, this center already exists. However, it has been underfunded for the past two years and has not been supported by the Administration. ATTRA, Appropriate Technology Transfer for Rural Areas, has been in place in Memphis, Tennessee for two years. The center has collected a database of current technologies and practices for farmers, as well as information for rural communities, all available through a toll free line which was initiated last summer. The Rural Information Center which is being proposed by the Extension Service and the National Agricultural Library, already exists, yet the Extension Service has failed to support ATTRA for two years. Now, I support providing this money, but it seems to me that it could be best put to use at ATTRA. Why has the Extension Service overlooked ATTRA, and why should we duplicate efforts already underway in Memphis? I see no reason why this center has to be placed in the Washington area, do you?

Answer: Our $2 million increase request for rural revitalization programs will encompass more than the operation of a Rural Information Center with the National Agricultural Library. A major portion of this request will be used to enable individual States to establish the necessary expertise to address this problem, in line with the Secretary of Agriculture's Rural Regeneration Initiative. The Rural Information Center, which is currently in operation, provides significant support to the Secretary's program because of its comprehensive rural collection on economic development, competitiveness and diversification essential to State and local government officials. On the other hand, ATTRA concentrates on low-input technologies, pest and weed management and the like, and does not duplicate the focus of RIC.

QUESTION SUBMITTED BY SENATOR BUMPERS

Question: I was interested to learn that the Extension Service is initiating an education campaign to reduce the incidence of food-borne illnesses by teaching food service personnel, food processors and consumers recommended food handling, preparation, and processing practices. Can you provide greater detail? Are you coordinating your important efforts with private industry?

Answer: There are several types of educational programs for food handlers on safe handling of fresh foods. These include classes for retail employees, restaurant employees, cooks in child care facilities, employees at food processing plants, etc. Extension has emphasized programs for audiences with the greatest need, such as small businesses, government sponsored programs and industry groups.

Consumption of food eaten away from home is a major growth area in our food system. In the future, Extension programs for food handlers will concentrate on:

1. Training of food handlers in safe handling practices particularly in the public sector and private industries where need is most critical and where resources are less plentiful--child care centers, elderly programs, small food processors and vendors, etc.
2. Increasing cooperation with other government organizations such as local public health departments and private concerns inthe development of educational strategies that meet community needs.

QUESTIONS SUBMITTED BY SENATOR COCHRAN

FERS (FEDERAL EMPLOYEE RETIREMENT SYSTEM)

Question: Dr. Johnsrud, does your 1989 budget request include funding to cover the retirement costs for the Extension/Federal appointees (13,000) at land-grant universities throughout the country? You will recall, we provided a supplemental last year (1987) of $6,500,000 and also provided an increase in the regular FY 1988 bill for this purpose. What is the amount that will be required for FY 1989? Why is this not included in the budget?

Answer: Our latest estimate on how much the additional costs associated with the FERS program for FY 1989 is between $6.0 and $6.5 million. These funds not requested due to our desire to fund the implementation of the National Priority Initiatives which are being developed with broad-based participation of Extension services and clientele.

RURAL DEVELOPMENT CENTERS

Question: The budget reflects a request of $2 million for rural revitalization programs; however, no funds are requested to continue the 5 rural development centers (one of which is in MS). I commend USDA for its increased attention to rural development as a part of an effort to help rural areas diversify their economies, but isn't this contradictory--on the one hand asking for $2 million for rural revitalization~~,~~ but on the other, terminating the funding for centers that are already established and whose mission it is to provide assistance in the revitalization of rural areas? Would you care to comment on this?

Answer: The $2 million request for increased rural revitalization program will allow heavily impacted States to respond to this problem in a more concentrated manner. This approach will support the Secretary's Rural Regeneration Initiative which will address the problem nationwide. With the States being required to provide an equal amount a meaningful program can be launched. Also, we believe that States would finance the Rural Development Centers from their own resources.

QUESTIONS SUBMITTED BY SENATOR MCCLURE

FORMULA FUNDING VERSUS COMPETITIVE GRANTS

Question: The FY 1989 proposed budget causes concern for research and Extension efforts in my home state and other states throughout the nation. It reduces those funds that have allowed each state to develop programs responsive to the needs of local people. This "grass-roots" approach made these programs locally useful to farmers and rural America. Maintaining funds at the current level or decreasing them could result in the elimination of these important programs because state budgets may not be able to absorb the costs of total programs or the inflationary increases on existing programs. In addition, the change in funding from formula to competitive grants raises concerns about the ability of small states and small programs to be competitive on a national level. Issues that are very important to the farmers of Idaho may not seem important from a national perspective. What is the rationale for maintaining the current level of funding for Hatch Act programs and reducing funds for Smith-Lever formula programs? How can you assure me that smaller states or smaller programs will not be ignored in the competitive grants process?

Answer: The decreased level of funding for Smith-Lever formula programs does not mean that Extension effort in this area is reduced. The decrease of $13.1 million consists of two parts: first, the Administration is not requesting the $4 million provided by Congress in FY 1988 for increased FERS costs of state Extension workers, and, second, the remaining $9.1 million is reallocated into the earmarked effort requested to address the Agricultural Competitiveness and Profitability National Initiative. Eighty percent ($7.7 million) of this proposal will be allocated back to the states under the Smith-Lever formula to support this initiative. The states will not end up with any significant reduction in formula program efforts.

WATER ISSUES

Question: Water quality and quantity has been identified as the highest priority for research and Extension programs for the last three years by the Joint Council on Agriculture. Water quality is a major concern to those of us in the West. The increasing concerns regarding pesticide contamination and the increased competition for water will intensify the need for development of reliable information to be used in policy decisions. This information must also be delivered to potential users of the information through Agricultural Extension Service programs.

This year's budget request by the land-grant universities included $25 million for research (CSRS) and $15 million for Extension. The Administration's proposed budget for FY 1989 includes no increase for CSRS or Extension for water quality, although $5 million is identified for ARS. What is the rationale for this recommendation? Why not provide the additional $5 million for land-grant or CSRS research instead of ARS?

Answer: Water quality has been identified as one of Extension's National Initiatives. As such, some portion of the $10 million proposal for Priority Initiative Projects may be used for specific water quality issues, in addition to some of our on-going efforts in this area.

AGRICULTURE PROFITABILITY VERSUS PRODUCTIVITY

Question: In the Administration's proposed budget, I noticed that CSRS funding for agricultural productivity research has been eliminated. At the same time, a new program for agriculture profitability is proposed for Extension at a level of $10 million dollars. If we eliminate agricultural productivity research, what information will the Extension Service be disseminating to farmers that will increase profits? By eliminating funding for CSRS agricultural productivity, will we have adequate research knowledge to justify an Extension program of this magnitude?

Answer: While we strongly support continued agricultural productivity research, U.S. agriculture is faced with vast amounts of data, information, and technology that are not now being integrated into profitable systems for use on our nation's farms. An important component of the new program for agricultural competitiveness and profitability within the Extension Service is the development of databases which will bring together the needed information into an easily accessible and usable form. This program will seek the cooperation of our nation's top expertise, private and public, and involve all states in a coordinated effort to make our best management decisions, utilizing production, management, marketing, and policy information available to the farmers and to those who help develop decision aids and management systems for farmers.

QUESTION SUBMITTED BY SENATOR KASTEN

Question: Dr. Johnsrud, as we approach the year 1990, when the conservation compliance requirement of the 1985 farm bill begins to take effect, it appears to me that there are widely different levels of awareness of and support for conservation compliance in different parts of the country.

Could you give us your assessment of where we stand overall in making farmers aware of and helping them to comply with conversation compliance? In which areas of the country do you expect particular difficulties in this regard, and what is Extension doing to overcome these difficulties?

Answer: Farmers across the nation are generally well informed of the Conservation Reserve Program. However, they do not appear to understand the implications of the Conservation Compliance provision. We are concerned that they may not be making the best use of the CRP to meet requirements of Conservation Compliance or the Sodbuster and Swampbuster provisions. In the Great Plains, Corn Belt, and the South, where most of our highly erodible cropland is located, farmers are better informed than in states with lesser amounts of eroding cropland. In the Northeast it is difficult to get the farmers to become concerned enough to find out how they are affected. An exciting project has been developed by the Cooperative Extension Service at the University of Illinois in cooperation with SCS. They have produced a series of informational and educational materials that will be used nationwide to help farmers understand and identify their erosion problems. The material is of such quality that some universities and junior colleges plan to use it to teach a course in Soil and Water Conservation. SCS has purchased copies to place in each county office.

On March 20, 1988, a satellite program on the conservation provisions of the Farm Bill was telecast for the Eastern Corn Belt states. The Indiana Cooperative Extension Service took the leadership for this with support from the SCS. This program will be available to other states.

Also, the Conservation Provisions have been the main topic of the series of winter sessions held by state Cooperative Extension personnel. As an example, Oregon, as well as in several other States, sessions were used as a workshop for county staff to develop specific plans of action.

Across the board, the Extension System has redirected a major amount of staff resources to accelerate education on provisions of the Food Security Act. Efforts will continue to assure a team effort within the states to reach all affected producers and landowners.

QUESTIONS SUBMITTED BY SENATOR HATFIELD

Question: Please detail the Oregon Projects funded under the Renewable Resources Act in the last three fiscal years. What leads you to believe that similar projects do not warrant funding in this coming fiscal year?

Answer: Oregon has focused RREA program activities in the Northeastern portion of the state. People in this part of the state are historically dependent on the use of the region's diverse mix of natural resources: timber, range, wildlife, fish, and water. "Use" has often taken the form of exploitation or, at best, extensive management, and in many cases has been focused on one or two resources--especially timber and range--with little direct concern for the other resources. The Oregon Cooperative Extension Service assembled an interdisciplinary team that has worked cooperatively with county, state and Federal agencies and organizations to make significant impacts. Workshops and training events indicate remarkable growth in both numbers of clientele participating and in demand for increasingly sophisticated kinds of programs over the past three years. Initial efforts dealt with integrated pest management and timber stand/forage improvement efforts. In the first year there were approximately 600 participants and documented changes were made by 20 landowners on 200 acres. Last year, with expanded demonstration areas and workshops, approximately 1,700 individuals participated in more than 20 different programs. These programs addressed such diverse topics as: prescribed burning for timber, range and wildlife benefits; watershed rehabilitation; precommercial and commercial thinning with seeding of forage; recordkeeping for improved management decisions and tax preparation; marketing of recreational opportunities on wildland. Although depressed markets for timber and livestock have limited large-scale investments in improved management practices, agent surveys in the six county area indicate that over 100 landowners have invested in or implemented at least one multi-resource management or marketing practice directly affecting a total of 2,000 acres with secondary effects extending to an area at least 10 times as large. With timber and livestock values moving upward, and with new-found confidence in their ability to make use of new management technologies and systems, we sense a growing optimism among families in Eastern Oregon, including young entrepreneurs and innovators. Other non-earmarked sources of funds could be used to continue these efforts.

Question: The Rural Development Center at Oregon State University, like the four other regional centers, is involved in a number of valuable projects. Given the Administration's new rural development initiative, why have you proposed elimination of the Rural Development Center? Would the continuation of the Centers not complement the new Rural Development Initiative?

Answer: We feel that our $2 million request for rural revitalization, which will be matched by the States by an equal amount will be more effective in advancing the Secretary's rural regeneration initiative. Also, we believe that States would finance the Rural Development Centers from their own resources.

SUBCOMMITTEE RECESS

Senator HARKIN. This ends today's hearing. The committee would very much like to thank all those representatives from the Department. The next hearing of this subcommittee will be held this Thursday, March 3, at 10 a.m., in this same room. At that time the subcommittee will hear from representatives of the Animal and Plant Health Inspection Service, the Federal Grain Inspection Service, the Food Safety and Inspection Service, and the Agricultural Marketing Service.

The subcommittee stands in recess.

Dr. KINNEY. Thank you, Mr. Chairman,

Dr. BENTLEY. Mr. Chairman, I might remind the staff that if anyone wants to see a demonstration of this wheat quality machine, Dr. Norris is here.

[Whereupon, at 12:35 p.m., Tuesday, March 1, the subcommittee was recessed, to reconvene at 10 a.m., Thursday, March 3.]

AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1989

THURSDAY, MARCH 3, 1988

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:45 a.m. in room SD–138, Dirksen Senate Office Building, Hon. Quentin N. Burdick (chairman) presiding.

Present: Senators Burdick, Grassley, and Chiles.

DEPARTMENT OF AGRICULTURE

STATEMENT OF KENNETH GILLES, ASSISTANT SECRETARY FOR MARKETING AND INSPECTION SERVICES

ACCOMPANIED BY STEPHEN B. DEWHURST, BUDGET OFFICER

OPENING REMARKS

Senator BURDICK. Good morning, ladies and gentlemen. Today, the subcommittee continues its hearings on the fiscal year 1989 budget for the Department of Agriculture.

With us today we have Kenneth Gilles, Assistant Secretary for Marketing and Inspection Services; James Glosser, Acting Administrator of the Animal and Plant Health Inspection Service; and Kirk Miller, Administrator of the Federal Grain Inspection Service.

I would like to point out at this time our deep sorrow of hearing of the death of Donald Houston, who was most recently the Administrator for APHIS, and prior to that, had been the Administrator of the Food Safety and Inspection Service. He did an outstanding job in his positions, and I know that the Department will miss him, as we do.

Also with us are Lester Crawford, Administrator of the Food Safety and Inspection Service; Patrick Boyle, Administrator of the Agricultural Marketing Service; and Steve Dewhurst, Budget Officer for the Department of Agriculture. Welcome to the committee, gentlemen.

This year, I am pleased to note that the budget request for these marketing and inspection agencies do not include proposals for increased user fees. These proposals in the past were legislative in nature and, therefore, not under the purview of the committee. I want to thank you gentlemen for this change.

While three of the agencies before us today, FSIS, FGIS, and AMS, are characterized by budget request increases, APHIS is proposing a $35 million decrease in its budget.

While I will leave the explanation of those budgets to the administrators of the respective agencies, I would note my concern about some of the cuts proposed for the Animal and Plant Health Inspection Service.

Of primary concern to me is the drastic reduction in the Animal Damage Control Program. Again, the administration proposes reducing this program by almost one-half.

The Animal Damage Control Program is a highly visible program out there, and the benefits are very direct to farmers and ranchers; they see them; they realize them, and they will miss them if they are not there. This program has been successful, and we have taken it a long way since the transfer from the Department of the Interior to the Department of Agriculture. I am very concerned by this proposed reduction. Other reductions under APHIS for pest control programs such as the Grasshopper Program, the Boll Weevil Program, the Leafy Spurge Program, and the Pseudorabies Program are also of special concern to me. These programs are also of direct benefit to farmers and ranchers, and there is considerable congressional support for them.

Before proceeding, I would like to remind the witnesses that their statements will be made a part of the record in full. I ask you to summarize them in 5 minutes so that we can proceed and give Senators a chance to ask questions on items of specific concern to them.

With that, I would like to welcome you again. I look forward to your testimony and the discussion of your budget.

I would like, first of all, to call on an old friend, a good old North Dakotan who got his early training in the proper place, Dr. Gilles.

STATEMENT OF KENNETH GILLES

Dr. GILLES. Thank you, Mr. Chairman. It is indeed a pleasure for my colleagues and me to be here and to appear before your committee under the leadership of the senior Senator from North Dakota. We are pleased to present the programs and the fiscal budget for the year 1989. In keeping with your comments, I will try to make my comments quite brief and merely to introduce the agency administrators who each have prepared statements that individually represent the budget proposals for their respective agencies. To conserve the committee's time, we will make our presentations brief and they will be augmented by a written statement for the file.

In general, the 1989 program level for the Marketing and Inspection Service programs is estimated at $934 million. This is a decrease of $21 million from the 1988 budget. I expect the committee will be pleased, as you have already noted, that there are no new user fees proposed this year.

The Department does, however, propose some termination and some phaseout of programs which we feel are either no longer necessary or could best be maintained by sharing the burden with others who more directly benefit from the services. In general, the funding for APHIS, or the Animal and Plant Health Inspection Service, would be reduced by $34.5 million. Most of these changes would come from the reductions in brucellosis, boll weevil, and in the Animal Damage Control Program.

The budget proposal recognizes that considerable federal investments have been made in these areas, and the Department can now support these activities with more limited federal involvement. Screwworm funding would be maintained at the same level as last year and the Agricultural Quarantine Inspection Program would be increased to strengthen the Department's inspection operations at airports.

An increase of $13.7 million is also proposed for the Food Safety Inspection Service, primarily to expand the testing programs in the meat and poultry products areas directed fundamentally at the chemical and antibiotic residue problems.

Federal funding for the Federal Grain Inspection Service would be increased a modest $1.2 million, primarily to enable the agency to implement the additional responsibilities that were created by the passage of the Grain Quality Improvement Act. In the Agricultural Marketing Service area, the users would continue to finance about 74 percent of agency activities. The budget, however, does reflect a small increase in funding for the market news program as well as decreases resulting from the proposed elimination of certain programs, including the Federal Seed Act, the wholesale marketing development program, and the payments to states program. Mr. Chairman, with these very brief opening comments, I would now like to call on the Administrators for their presentation. The first will be Dr. James Glosser, who is the Acting Administrator of the Animal and Plant Health Inspection Service.

[The statement follows:]

STATEMENT OF DR. KENNETH A. GILLES

Mr. Chairman and members of the committee, I am pleased to appear before you to discuss the marketing and inspection programs of the U.S. Department of Agriculture and the fiscal year 1989 budget proposals for these programs.

At this time, I would like to make some general points about the budget proposals for the marketing and inspection programs. Then, I will introduce to the committee the agency administrators accompanying me today. The administrators have prepared statements regarding the budget proposals for the specific programs in each agency.

FISCAL YEAR 1989

The program level for marketing and inspection service programs is estimated at $934 million, a decrease of $21 million from the 1988 level. I expect the committee will be pleased to note there are no new user fee proposals offered in 1989. The Department, however, continues to propose the termination or phaseout of certain programs where federal involvement is no longer necessary, while maintaining or expanding critical programs. Let me now summarize some highlights of the Department's budget request in the marketing and inspection area:

- Funding for the Animal and Plant Health Inspection Service (APHIS) would be reduced by $34.5 million, with most of this change coming from reductions in brucellosis, boll weevil, and animal damage control. The budget proposal recognizes that considerable federal investments have been made in these areas and the Department can now support activities with more limited federal involvement. Screwworm funding would be maintained at last year's level. The agricultural quarantine inspection program would be increased to strengthen the Department's airport inspection operations.

- An increase of $137 million is proposed for the Food Safety and Inspection Service (FSIS), primarily for expanded testing of meat and poultry products for chemical and antibiotic residues.
- Funding for the Federal Grain Inspection Service (FGIS) would be increased by $1.2 million to enable continued implementation of the Grain Quality Improvement Act.
- In the AMS area, users would continue to finance about 74 percent of the activities. The budget, however, reflects a small increase in funding for AMS market news information efforts and a decrease of $3.6 million as a result of the proposed elimination of certain appropriation financed programs, including the Federal Seed Act, Wholesale Market Development, and Payments to States programs.
- The Agency administrators present with me today have more specific information on the fiscal year 1988 activities of the marketing and inspection programs and further details on the fiscal year 1989 budget proposal.

CONCLUSION

Thank you for this opportunity to review the budget for marketing and inspection programs. I fully support the budget request and believe it is adequate to assure the Department of Agriculture's successful accomplishment of program goals under my jurisdiction.

Animal and Plant Health Inspection Service

STATEMENT OF JAMES W. GLOSSER, ACTING ADMINISTRATOR

ACCOMPANIED BY:

- **LARRY B. SLAGLE, ACTING ASSOCIATE ADMINISTRATOR**
- **BILLY B. JOHNSON, ACTING DEPUTY ADMINISTRATOR, VETERINARY SERVICES**
- **GERALD J. FICHTNER, DEPUTY ADMINISTRATOR, ANIMAL DAMAGE CONTROL**
- **DONALD F. HUSNIK, ACTING DEPUTY ADMINISTRATOR, PLANT PROTECTION AND QUARANTINE**
- **ROBERT L. BUCHANAN, ACTING DEPUTY ADMINISTRATOR FOR MANAGEMENT AND BUDGET**
- **TERRY L. MEDLEY, DIRECTOR, BIOTECHNOLOGY AND ENVIRONMENTAL COORDINATION STAFF**
- **WILLIAM S. WALLACE, DIRECTOR, BUDGET AND ACCOUNTING DIVISION**
- **NANCY J. ROBINSON, DIRECTOR, LEGISLATIVE AND PUBLIC AFFAIRS**

INTRODUCTION OF ASSOCIATES

Dr. Glosser. Thank you, Dr. Gilles. Mr. Chairman, I am pleased to report to you on the fiscal year 1989 budget for the Animal and Plant Health Inspection Service. First, however, I would like to extend, on behalf of the Agency, my appreciation for your acknowledgment of the loss of a beloved colleague and a magnificent manager of the Agency, Dr. Donald Houston. I would like to introduce key agency staff members with me today: the Acting Associate Administrator, Mr. Larry Slagle; Dr. Billy Johnson, Acting Deputy Administrator for Veterinary Services; Dr. Gerald Fichtner, Deputy Administrator for Animal Damage Control; Mr. Donald Husnik, Acting Deputy Administrator for Plant Protection and Quarantine; Mr. Robert Buchanan, Acting Deputy Administrator for Management and Budget; Mr. Terry Medley, Director of the Biotechnology and Environmental Coordination Staff; Mr. William Wallace, Director of the Budget and Accounting Division; and Ms. Nancy Robinson, Director of Legislative and Public Affairs.

APHIS MISSION

Mr. Chairman, the APHIS mission is to protect our nation's plant and animal resources from pests, diseases, and predation. The mission is a challenging one, made tougher by millions of passengers arriving from foreign countries each year; our efficient marketing system, which could easily spread diseases very rapidly throughout our land; changing technology, particularly in biotechnology; and greater demands on government and industry resources. To meet the new challenges, we must have an agency which emphasizes three essentials; good science, good management, and good people. Our goal is to make APHIS a well-managed organization of highly qualified scientists, using the latest techniques to develop sound regulatory and control programs. We can be effective only if industry has confidence that APHIS is such an agency.

SCIENTIFIC BASE

We have already begun taking steps to improve our scientific base. In the biotechnology area, we have brought on board microbiologists, geneticists, and statisticians to carry out our regulatory role. To help in the pest and disease exclusion effort, we have installed x-ray machines, placed detector dog teams, and developed computerized communication systems. In the pest and disease detection area, we have created computerized national data banks and have begun an animal health monitoring system. Both detection projects involve a multidisciplinary scientific approach to assessing pest and disease prevalence and the potential economic impact.

In the brucellosis program, we are ready to implement a new testing program which will speed the diagnosis of samples. This system, the PCFIA or particle concentration fluorescent immuno assay system, is the very latest technology. In the animal damage control program, we have begun making improvements in the Denver Wildlife Research Center and have hired scientists with special expertise in pesticide registration support techniques. All of these are examples of our emphasis on making APHIS the recognized authority on animal and plant health protection. We want APHIS to garner support and cooperation because of our expertise, not just our regulatory powers.

FISCAL YEAR 1989 BUDGET

Turning to the specifics of our fiscal year 1989 budget, we are requesting $294 million for salaries and expenses and $2.8 million for buildings and facilities. We are requesting increases in several high priority programs, most notably, the agricultural quarantine inspection, animal disease detection, biotechnology and veterinary diagnostics programs. The agricultural quarantine inspection program is our major pest exclusion effort. The other programs I have mentioned are central to our goal of improving our scientific base. We have also proposed decreases to offset the costs of improving our highest priority activities. The most significant savings are proposed in animal damage control, where states and localities can do more to carry out control activities on private lands, and brucellosis, where continued progress makes spending reductions possible. Also, we are proposing to end APHIS involvement in a number of localized plant pest programs.

Mr. Chairman, I would like to conclude by thanking you for the support of the committee over the years. We appreciate your confidence and hope that the steps we are taking to improve APHIS will allow us to meet the challenges ahead. I thank you for the time and would be glad to answer any questions.

Senator BURDICK. Thank you.

[The statement and biographical sketches follow:]

STATEMENT OF DR. JAMES W. GLOSSER

Mr. Chairman, members of the Committee, I am very pleased to report to you on the Fiscal Year (FY) 1989 budget for the Animal and Plant Health Inspection Service (APHIS). We have compiled a long list of achievements, of which we are very proud, but there is still much to do and we plan to do it well. We are taking steps to improve APHIS in order to meet the challenges ahead. I would like to take some time today to report on both our accomplishments and our plans. First, let me introduce our management team. With me are Mr. Larry B. Slagle, the Acting Associate Administrator; the Deputy Administrator for Animal Damage Control--Dr. Gerald J. Fichtner; the Acting Deputy Administrators for Veterinary Services--Dr. Billy G. Johnson; for Plant Protection and Quarantine--Mr. Donald F. Husnik; and for Management and Budget--Mr. Robert L. Buchanan; the Director of the Budget and Accounting Division--Mr. William S. Wallace; and the Director of the Biotechnology and Environmental Coordination Staff--Mr. Terry L. Medley.

APHIS Mission

It could be said that a goal of the Department of Agriculture is to help keep farm income high while at the same time keeping consumer prices low. Sometimes it is hard for a program to work towards both parts of the goal. But for APHIS the goal is consistent. Keeping plants and animals healthy, and protecting them from animal predation, is the APHIS mission. This mission helps keep farm production costs lower and in turn helps prevent price increases at the grocery store.

While the APHIS mission is clear and consistent, its execution is far from simple and is affected by many factors. The ease and magnitude of international trade and travel threaten to bring exotic pests and diseases to our country every day. Our efficient marketing system can also efficiently spread disease and pest problems throughout the country in a matter of hours. Many endemic pests and diseases force farmers and ranchers to use expensive control measures, prompting requests for Federal involvement. Breakthroughs resulting from the processes and products of biotechnology could change the very basics of how we grow crops and breed animals, and consequently change our pest and disease control techniques. Additionally, budget realities discourage costly long-term programs. Clearly, success for APHIS in the 1990's will require more from APHIS than did the challenges of the past.

How do we meet the challenges of the 1990's? The answer is good science, good people, and good management. When all three are in place success is likely. I believe that we have a solid base to build upon in all three areas, but we need to improve all three so that APHIS will enter the 1990's ready to match the accomplishments of the past.

Accomplishments

I would like to take a few minutes to discuss some of our most recent accomplishments, including those designed to adapt the Agency to changing priorities and needs. Nowhere is the need for good science and good people any more important than in our role of regulating products produced by biotechnology. Traditional training in pest and disease control cannot provide today's regulator the necessary skills and knowledge to effectively work in this advancing field. Accordingly, we have established multi-disciplinary staffs in plant and animal health, as well as a central coordinating staff, to handle the APHIS biotechnology regulatory responsibilities. We now have microbiologists, geneticists, and statisticians on board to give us the scientific base we must have to carry out our regulatory responsibilities in this highly technical field of science. We have already seen a return on this investment, with the development of a system to evaluate DNA probes. This system not only will prove valuable and cost-effective, it will help further establish USDA credibility in the broad field of biotechnology.

Pest and Disease Exclusion and Detection

Good management is using resources in a way that will save larger expenditures later. For APHIS that means focusing on pest and disease exclusion and early detection of their entry or spread. It also means making resource allocation decisions based upon sound scientific data. We have made progress in doing both. Specialized X-ray machines provide extra protection in our agricultural quarantine inspection efforts at four high volume airports. A computer based communications system allows inspectors at different ports to alert each other to high risk cargoes. Our nationwide plant pest data service is accepting from, and providing to, States a multitude of information which can be used to identify emerging problems.

We have made similar progress on the animal health side. Our Laboratory Operations Support System is now in place in 30 States. This system uses computer technology to rapidly trace infected animals back to their herds of origin, the vital first step in disease control. We are nearing completion of the pilot phase of our National Animal Health Monitoring System. Working with the States and industry, we are developing a statistically valid data base for monitoring the spread and determining the significance of animal diseases. This information will assist us and our cooperators in making program decisions.

Developing New Techniques

Another area of accomplishment designed to meet current and future challenges is the Agency's work on new pest and disease control techniques. Heightened environmental concerns have made pesticide applications--a traditional pest control technique--less available to us and more costly to maintain. While continuing to use safe pesticides as an integral part of many programs, we are exploring greater use of biological tools. A major thrust in our biological control effort is the integrated pest management trial project to find alternatives to chemicals for grasshopper control. That project will continue this summer in North Dakota and Idaho. Other biocontrol initiatives have already proven successful and have contributed to American agriculture. For instance, our ongoing biological control program was honored last year, along with the Agricultural Research Service, for the successful alfalfa weevil effort which has reduced chemical control costs by $8 million annually. And, we are nearing completion of a gypsy moth eradication program in Oregon which relied solely on the biological agent Bacillus thuringiensis. Both the biological control and the gypsy moth programs are examples of using good science to achieve program goals which may not have been possible with traditional tools.

Quick Response

Good management also is staying ahead of problems before they become more difficult and costly to handle. An example is our Africanized bee effort. Left unchecked, the Africanized bee would reach Texas in just a few years. Although estimates vary, it is clear that living with this pest would be costly to agriculture. We have entered into a cooperative effort with Mexico in the Isthmus of Tehuantepec to slow the bee's progress. The program is now fully functional. During 1987 we also responded to several fruit fly outbreaks in California and Florida. All of the outbreaks have been eliminated or are under good control, thus avoiding a repeat of the costly outbreaks of the early 1980's. Improved trapping systems were instrumental in allowing a quick and effective response to the outbreaks. Our animal health network responded in similar fashion to several Newcastle disease outbreaks.

Brucellosis and Screwworm

I mentioned earlier that long-term eradication programs are difficult to initiate in times of a large budget deficit. While we acknowledge that fact, it does not lessen our commitment to successfully complete programs such as brucellosis and screwworm. Both programs have been highly successful and we are determined to see them through as directed by the Congress. Brucellosis progress continues on schedule, with the number of quarantined herds reduced to 3,160 at the end of FY 1987 from 3,545 at the same time in FY 1986. Only two States remain in Class C status. Our commitment is to move all the States to Class A or better by FY 1991. We are very optimistic that we will achieve this goal through continued industry and State cooperation.

The screwworm success story continued in FY 1987. We have pushed the screwworm to the Mexican borders with Belize and Guatemala and have begun an eradication program in Guatemala. Agreements have been initialed with Belize and Honduras and are pending ratification in those countries before programs can be initiated. Soon, we will be negotiating an agreement with El Salvador.

Every additional mile that the program advances southward adds protection for the United States and benefits for the agricultural economies of Central America. Perhaps most important, we are gaining this additional protection within current funding levels. The scientific breakthrough that made this possible--the sterile insect technique--has already been adapted to other pests and serves as a standard for us to strive to equal in future efforts.

FY 1988 Plans

Another aspect of good management is fulfilling the direction of policy makers. Accordingly, our funding and program plans are designed to carry out the directives included in the FY 1988 appropriation. We will be reporting to you on the progress of each of those directed activities.

Among the highest priorities for the Agency in FY 1988 are those involving the Denver Wildlife Research Center of the animal damage control program including bringing it into compliance with the standards for good laboratory practices and the Animal Welfare Act. We need to find new tools to carry out our animal damage control work and also maintain existing pesticide registrations for those already in use. This requires a well-equipped facility and a staff with the specific scientific expertise and skills necessary to do the work. During FY 1988, we have begun the process of making both facility and staffing improvements. These improvements further those very basic goals we have set--good science, good people, and good management. We appreciate the direction and support of the Congress in this effort.

A special initiative in animal health for FY 1988 is implementation of the Particle Concentration Fluorescent Immuno Assay--PCFIA--testing system for brucellosis. This high speed system involves scanning devices connected to a computer which determines if a sample is positive, negative, or suspicious. This will bring us in line with the very latest in testing technology, while offering long-range cost savings that can benefit the entire program. The system can be operated completely by technicians, freeing veterinarians and laboratory specialists to do other work. We will use the system in the highest incidence States, thus speeding up our efforts to quickly improve the disease situation in those States.

One final endeavor I would like to mention is a management review now underway in the Agency. A group of top Agency people is conducting a thorough review of our organizational structure and our decisionmaking processes. Although we believe that the Agency has performed well, we want to assure that we are managing our resources, both personnel and dollars, in a manner that will allow us to fulfill our mission both now and in the future. We will be reviewing the group's report and making the necessary changes. We will be glad to report to you as we proceed.

FY 1989 Budget

I would now like to turn to our FY 1989 budget. We are requesting $294,243,000 for the salaries and expenses appropriation and $2,847,000 for the buildings and facilities appropriation. Our request for salaries and expenses is $35,087,000 less than the FY 1988 appropriation and reflects a number of significant changes in individual programs. First, I will discuss the major increases.

Increases

We are requesting a $6,428,000 increase for our agricultural quarantine inspection program. Earlier I spoke of the constant threat posed by international travelers arriving in the United States. Thirty-four million passengers arrived via airplane in FY 1987, 2 million more than in FY 1986 and a 112 percent increase in just six years. To protect American agriculture we have to respond accordingly. The requested increase will allow us to place more inspectors at high volume ports of entry and expand our use of X-ray machines and detector dog teams. Both items were key recommendations of the 1985 Blue Ribbon Panel study of pest exclusion activities.

We are proposing increases of $538,000 for the pest detection program and $1,958,000 for the animal disease detection program. Both increases will enhance our capability to quickly detect emerging threats and also focus our efforts on those most economically significant. Knowledge of pest conditions in the United States allows APHIS to provide data in support of talks to reduce nontariff barriers based on quarantines. Specifically, we will direct the funds to our Cooperative National Plant Pest Survey and Detection project and the National Animal Health Monitoring System. Both the Plant Pest Survey and Detection Project and the Animal Health Monitoring System rely heavily on Federal-State-industry cooperation and communication. Enhancing that kind of cooperation and communication is a top priority.

An important part of our pest exclusion strategy is maintaining an international presence. By placing a small number of APHIS officials on-site in other countries, we can inspect shipments bound for the United States before they ever leave their country of origin, thus reducing the threat from those imports. Also, our officials serve as liaisons to the agricultural health protection officials of other countries. This helps create an international network to better monitor and predict pest and disease movement, as well as to facilitate negotiations for more reasonable quarantine regulations for American exports. We are requesting an additional $416,000 for international plant health activities and $296,000 for animal health activities. These additional funds will allow us to place more APHIS people in foreign locations.

We are requesting $1,950,000 to fund the third year of the Africanized bee program in Mexico. This program was financed from contingency funds in FY 1987 and FY 1988 because of the need to move quickly to address the emerging threat. For the contingency fund, we are requesting an increase of $500,000. Small-scale pest and disease outbreaks can be handled much more efficiently through use of contingency funds than any other mechanism.

The last two requested increases involve once again our quest for better science. For the veterinary diagnostics program, we are requesting an increase of $1,504,000. We believe that our diagnostic capability must continue to be the best in the world. The States and industry depend on APHIS expertise to diagnose diseases. This is appropriate and necessary in accomplishing our mission. We have had to redirect funds from other programs in recent years to adequately support the diagnostic function. This prevents good management of resources and postpones or even cancels important work. The requested increase will put the program on a solid financial footing.

Lastly, we are requesting an additional $1 million for the biotechnology program. As the number of permit requests for the field testing of genetically engineered products increase we must be prepared to respond. If we are not prepared to fulfill our role, the industry's development may be hindered and we could even drive new technology development to other countries. The increase will allow us to hire more scientists and regulatory officials to assure the industry that we are ready to carry out our responsibilities effectively and efficiently.

Decreases

The budget deficit requires all of us to take a hard look at our priorities and to make some tough choices. In looking for savings, we tried to identify logical places to reduce spending while minimizing the impact on the industry and the people who count on us for help.

For the animal damage control program we are requesting a decrease of $11,419,000 in appropriated funds. However, we hope to maintain the current level of service by using existing authority to seek reimbursements from States, local governments, and industry for actual control operations on State and private lands. Some of these activities are already paid for by cooperators and we believe it is appropriate to extend that policy to all such operations. With the appropriated funds we will continue the current activity level at the Denver Wildlife Research Center and in our technical assistance efforts.

We propose to reduce brucellosis funding by $9,776,000, consistent with our plan to phase down the Federal role in the program in anticipation of having all States in Class A status or better by FY 1991. All the indicators point to continued success at this funding level.

We are proposing a net decrease of $25,625,000 in several plant health programs which have either achieved their goals or have reached a point where further investment seems unwise. In biocontrol, we will have completed the leafy spurge work directed by Congress in the FY 1988 Continuing Resolution. Similarly, both the golden nematode and noxious weeds programs will have substantially accomplished their original purpose. Increased expertise by States will enable us to reduce the funding for the pink bollworm program and our involvement in regulatory and survey activities. A downward trend in grasshopper populations and the expected results of the integrated pest management project allow us to reduce grasshopper funding. The lack of an effective control tool makes continued funding of the imported fire ant work impractical. Lastly, we are proposing to turn over the boll weevil programs to the States and industry. With the Federal Government having developed the technology and given these programs an initial boost, the primary beneficiaries of the programs should now assume their full costs.

On the animal health side, we propose to reduce animal welfare funding by $1,275,000, reflecting completion of the National Agricultural Library database. A reduction in funding for poultry diseases reflects the completion of a study on avian influenza. For pseudorabies, we propose a decrease of $1,400,000. Recently completed pilot projects have shown that area control is possible.

Summary

Mr. Chairman, I would like to conclude by thanking you and the Committee for your support throughout the years. The goals I have alluded to--improving our science, our people, and our management--are all designed to ensure a strong animal and plant health inspection program that allows us to meet future challenges in agricultural protection. I thank you for the time and would be glad to answer any questions.

BIOGRAPHICAL SKETCHES

James W. Glosser

Dr. James W. Glosser is serving as Acting Administrator for the Animal and Plant Health Inspection Service (APHIS). He has been the Associate Administrator since March 31, 1985. He was born in Helena, Montana, on August 2, 1931. Dr. Glosser earned a Doctorate of Veterinary Medicine at Washington State University in 1963, and a master's degree in Public Health at the University of Minnesota in 1971. His graduate studies included epidemiology and veterinary microbiology from 1971 to 1976.

Upon earning his doctorate degree, Dr. Glosser worked in private practice of veterinary medicine in Miles City, Montana. From 1966 to 1973, he served as a Veterinary Epidemiologist with the U.S. Public Health Service Centers for Disease Control in Atlanta, Georgia. At various times, Dr. Glosser has served on special projects for the National Cattlemen's Association and the U.S. Department of Agriculture. From 1973 to 1983, he served as State Veterinarian, State Public Health Veterinarian and in other capacities for the State of Montana. Dr. Glosser began his career with APHIS in 1983 as Assistant to the Administrator for APHIS.

Dr. Glosser currently resides in Alexandria, Virginia, with his wife Julie. The Glossers have three grown children, two sons and a daughter.

Larry B. Slagle

Mr. Larry B. Slagle is currently serving as Acting Associate Administrator for the Animal and Plant Health Inspection Service (APHIS). He has been the Deputy Administrator for Management and Budget for APHIS since January 1978. Mr. Slagle was born in Templeton, Pennsylvania, on December 17, 1934. He earned a Bachelor of Arts degree in political science from Wabash College in Crawfordsville, Indiana, in 1956 and he has completed course work at American University for a master's degree in Public Administration.

Mr. Slagle served in the U.S. Army from 1957 to 1959. Following military service, he worked for IBM's Federal Systems Division in Washington and at the Veterans Administration Hospital in Ann Arbor, Michigan.

Mr. Slagle began his U.S. Department of Agriculture career with the Agricultural Research Service in New Orleans, Louisiana, in 1962, as a personnel specialist. In 1966, he transferred to Hyattsville, Maryland, and served in various personnel and management positions until 1971. Between 1971 and 1976 he served as Director of APHIS' Legislative and Special Assignments Staff and as Assistant Deputy Administrator for Management. Mr. Slagle was awarded the rank of Meritorious Executive by President Reagan in 1985. He resides in Washington, DC.

Billy G. Johnson

Dr. Billy G. Johnson has been serving as Acting Deputy Administrator for the Animal and Plant Health Inspection Services' (APHIS) Veterinary Services (VS) since January 26, 1988. Prior to serving in this position, Dr. Johnson has been the Associate Deputy Administrator for VS since June 5, 1986. He was born in San Saba, Texas, on June 30, 1935. Dr. Johnson earned a Doctorate Degree in Veterinary Medicine from Texas A & M University in 1959.

Upon earning his doctorate degree, Dr. Johnson began his Federal career with the Agricultural Research Service (ARS), serving for a short time for the Animal Disease Eradication Division in Arkansas before entering the Air Force for 2 years. After his departure from military service in 1962, Dr. Johnson returned to ARS in Arkansas as a field veterinarian. From 1964 to 1967, he assumed the duties of brucellosis epidemiologist. He then entered the ARS Veterinary Administrative Development Program and upon completion in 1968, Dr. Johnson served on the Emergency Diseases Staff in Hyattsville, Maryland for 3 years. From 1971 to 1973, he served as APHIS Assistant Veterinarian-in-Charge in Washington State. He then served 1 year respectively as District Veterinarian-in-Charge for California and Hawaii and Chief Staff Veterinarian for the Import-Export Staff in Hyattsville, Maryland. From 1975 to 1980, he was Chief Staff Veterinarian for the Brucellosis Eradication Program. In 1980, Dr. Johnson was the Senior Staff Veterinarian for the Cattle Diseases Staff. In 1983, he was apppointed Director of the National Brucellosis Eradication Program and was appointed Associate Deputy Administrator of VS in 1986.

Dr. Johnson currently resides in Glenn Dale, Maryland, with his wife Anita. They have two grown children.

Gerald J. Fichtner

Dr. Gerald J. Fichtner was appointed Deputy Administrator for the Animal Damage Control (ADC) program of the Animal and Plant Health Inspection Service (APHIS) on March 30, 1987. He was born in Richmond, Michigan, on January 28, 1938. Dr. Fichtner earned a Doctorate Degree in Veterinary Medicine from Michigan State University in 1961.

Upon receiving his doctorate degree, Dr. Fichtner began his Federal career at the U. S. Department of Agriculture with the Agricultural Research Service (ARS) as a Veterinary Medical Officer in Michigan and later served as a Brucellosis Epidemiologist until 1967. During this period he completed graduate coursework in epidemiology, serology, immunology, and pathology. From 1967 to 1968, he was a participant in the ARS' Veterinary Administrative Development Program with assignments in Arizona and Georgia. Upon completion of the program, he subsequently served 1-year assignments on the National Swine Brucellosis and Hog Cholera Program Staffs in Hyattsville, Maryland.

Dr. Fichtner served as Assistant Veterinarian-in-Charge in Sacramento, California, during 1970 to 1971, with primary responsibility for directing animal care and import-export activities. In 1971, he transferred to Hyattsville, Maryland, where he served for 5 years as Chief Staff Veterinarian on the Emergency Programs and Cattle Diseases Staff. Dr. Fichtner then served as Assistant Regional Director of the Northern Region for Veterinary Services (VS) until 1979, when he was promoted to the post of Regional Director. He served as Director, Avian Influenza Eradication Program in Pennsylvania in 1983 and 1984. He subsequently was appointed Associate Deputy Administrator for VS in 1985 and Assistant Deputy Administrator in 1986.

Dr. Fichtner is a member of the United States Animal Health Association, the National Association of Federal Veterinarians, the Senior Executive Association, and the National Capital Wildlife Society.

Dr. Fichtner currently resides in Annapolis, Maryland, with his wife Mary. The Fichtners have five children.

Donald F. Husnik

Mr. Donald F. Husnik is serving as Acting Deputy Administrator for Plant Protection and Quarantine (PPQ) programs of the Animal and Plant Health Inspection Service (APHIS). He has been the Associate Deputy Administrator for PPQ since September 14, 1986. Mr. Husnik was born in Hugo, Minnesota on December 30, 1940. He earned a Bachelor of Science degree in Agriculture from the University of Minnesota in 1962.

After receiving his undergraduate degree, Mr. Husnik began his Federal career with APHIS as a PPQ Officer in Detroit, Michigan, until 1969 when he served as an Officer-in-Charge in Anchorage, Alaska. In 1974, he served as Assistant District Director in San Francisco, California. He moved to Washington, D.C., in 1977 to serve as Special Assistant to the Deputy Administrator for PPQ. In 1980, he was promoted to Regional Director, Southeastern Region, in Gulfport, Mississippi. He moved back to Washington, D.C., in 1984 to serve as Assistant Deputy Administrator for National Programs.

Mr. Husnik currently resides in Woodbridge, Virginia with his wife, Marilyn. The Husniks have two children.

Robert L. Buchanan

Mr. Robert L. Buchanan is serving as Acting Deputy Administrator for Management and Budget of the Animal and Plant Health Inspection Service (APHIS). He has been the Associate Deputy Administrator for Management and Budget since 1978. Mr. Buchanan was born in Altoona, Pennsylvania, on September 3, 1940. He earned a Bachelor of Science degree in business administration from Pennsylvania State University in 1962.

Upon receiving his undergraduate degree, he began his Federal career at the U.S. Forest Service in Upper Darby, Pennsylvania, serving as an Accountant in various financial management positions. Following his military service from 1964 to 1966, Mr. Buchanan returned to the Forest Service serving as Chief of the Budget and Finance in the George Washington National Forest Supervisor's Office in Harrisonburg, Virginia, and later as a Systems Accountant and Budget Analyst in Washington, DC. He transferred to the Agricultural Research Service in 1971 to serve as an Assistant to the Chief of the Budget Division and subsequently to APHIS, when it was established in 1972, as Chief of the Budget Planning Branch. From 1974 to 1975, Mr. Buchanan served as Chief of the Marketing and Consumer Services Staff for the U.S. Department of Agriculture's Office of Management and Finance. He returned to APHIS in 1975 to serve as the Director of the Budget Division until his appointment in 1978 as the Associate Deputy Administrator for Management and Budget.

Mr. Buchanan currently resides in Silver Spring, Maryland, with his wife Patricia and their son and daughter.

Terry L. Medley

Mr. Terry L. Medley was selected Director of the Biotechnology and Environmental Coordination Staff (BECS), of the Animal and Plant Health Inspection Service (APHIS), in December 1986. He was born in Union, South Carolina, on September 12, 1951. Mr. Medley graduated from Amherst College in 1974 and earned a Doctor of Jurisprudence degree from the University of Virginia School of Law in 1977. He was elected to the Raven Society for his scholastic achievement and service to the community. Mr. Medley is a member of the Virginia Bar Association.

Upon graduation from law school, he began his Federal career as an Attorney for the U.S. Department of Agriculture's (USDA) Office of the General Counsel's Regulatory Division. In 1982, he was promoted to Senior Attorney and advisor for APHIS' Plant Protection and Quarantine (PPQ) programs. Since the fall of 1984 he has been involved drafting Federal and Departmental biotechnology statements and interpretation of APHIS' statutory authority and advice on environmental matters. As a member of an advisory committee, he wrote portions of the legal and regulatory analysis prepared for the Second Annual Brookings Conference on Biotechnology. The BECS, which Mr. Medley now directs, is responsible for coordinating biotechnology regulatory activities within USDA, for acting as liaison between USDA and other Federal agencies on matters pertaining to biotechnology regulation, and ensuring that APHIS programs are carried out in conformance with the provisions of applicable environmental statutes. He is a member of the National Keystone Advisory Board for Biotechnology, and frequently participates as a speaker in biotechnology conferences held in the United States and abroad.

Mr. Medley currently resides in Arlington, Virginia, with his wife Gerre, and their two children, a son and daughter.

FEDERAL GRAIN INSPECTION SERVICE

STATEMENT OF W. KIRK MILLER, ADMINISTRATOR

ACCOMPANIED BY:

JOHN MARSHALL, DIRECTOR, FIELD MANAGEMENT DIVISION
ROBERT "E" SODERSTROM, DIRECTOR, RESOURCE MANAGEMENT DIVISION
HARVEY WILEY, BRANCH CHIEF, FINANCIAL SERVICES
JIM BAIR, CONFIDENTIAL ASSISTANT

INTRODUCTION OF ASSOCIATES

Dr. GILLES. Next, we would like to call on Mr. Kirk Miller, the Administrator of the Federal Grain Inspection Service.

Mr. MILLER. Good morning, Mr. Chairman and members of the subcommittee. We appreciate the opportunity to present to you the Federal Grain Inspection Service budget for fiscal year 1989. I will submit our complete written statement for the record and present a brief summary statement at this time. We have with us this morning Mr. John Marshall, Director of the Federal Grain Inspection Service Field Management Division; Mr. Robert Soderstrom, Director of the Resource Management Division; Mr. Harvey Wiley, Branch Chief of Financial Services; and Mr. Jim Bair, my Confidential Assistant.

FGIS 1989 BUDGET

FGIS is requesting $45.1 million for fiscal year 1989. Inspection and weighing activities, which are supported by user fees, comprise $36.9 million of this total. The remaining $8.2 million is appropriated funds for standardization, compliance, international monitoring, Advisory Committee activities, and implementation of new programs under the Grain Quality Improvement Act of 1986. New programs under the Grain Quality Improvement Act will cost approximately $1.2 million. Except for these programs, no significant increase in operational costs are planned.

In fiscal year 1987, operating revenues from user fees yielded a positive operating margin of $2.9 million. Because of this, FGIS repaid the remaining $2 million balance of the $6 million which was appropriated in fiscal year 1984 to recapitalize the revolving fund. FGIS directed programs in fiscal year 1987 to improve the quality of grain through specific initiatives. These initiatives included reviewing the procedures for the detection and suppression of insect infestation; developing directives which deal with the safe, effective fumigation of rail cars, barges, and ships carrying grain; revising the U.S. standards for wheat to require that dockage is certificated to the nearest 0.1 percent; establishing improved procedures for detecting the presence of treated grain in bulk grain marketed for human or animal consumption; and revising regulations and the U.S. standards for corn and sorghum to implement the Grain Quality Improvement Act.

FGIS is aggressively pursuing actions to assure successful implementation of its Equal Employment Opportunity Program. Recruiting trips are being made to minority organizations and historically black colleges and universities. Job vacancy announcements are being sent to trade associations, grain companies, universities, and colleges with high concentrations of potential black or Hispanic applicants. We have contracted with a vocational service organization which employs and trains handicapped people. In addition, we have contracted with a minority owned and operated firm to provide us with automated data processing services.

We have also established a field-based equal employment opportunity working group designed to promote women, minority, and disabled field employees. FGIS is committed to being a nondiscriminatory employer. Items featured in the unabridged statement which may not have been presented or expanded on in this brief opening include the FGIS mission statement, safety and health programs, grain dust explosion information, and Advisory Committee activities.

Mr. Chairman, this concludes my summary statement. I will be glad to answer any questions you or other members of the committee may have.

Senator BURDICK. Thank you.

[The statement and biographical sketches follow:]

STATEMENT OF W. KIRK MILLER

We appreciate the opportunity to present to you the Federal Grain Inspection Service's (FGIS) budget.

In addition to our specific budget request, this presentation includes information about FGIS' mission, its program activities and supporting data.

Our total budget request for fiscal year 1989 is $45.1 million. Inspection and weighing activities which are funded in total by user fees represent $36.9 million of this total. The remaining $8.2 million is our appropriation request. Appropriated dollars will support programs involving standardization, compliance, international monitoring, Advisory Committee activities, and implementation of new programs under provisions of the Grain Quality Improvement Act (GQIA) of 1986. New programs under the Grain Quality Improvement Act will cost approximately $1 million. These funds will be used to carry out several compliance monitoring programs at 90 export elevators and other elevators at interior locations. Except for these programs, no significant increase in operation costs are planned.

The operating budget for inspection and weighing activities is funded by user fees through a revolving fund. User fees constituted 81 percent of the total budget in fiscal year 1987. Operating revenues from user fees were $32.4 million; obligations were $29.5 million, yielding a positive operating margin of $2.9 million. In fiscal year 1987, FGIS repaid the remaining $2 million balance of the $6 million which was appropriated in fiscal year 1984 to recapitalize the revolving fund.

The mission of FGIS is to provide for the establishment of official U.S. standards for grain, to promote the uniform application of standards by official inspection personnel, to provide for an official inspection system for grain, to regulate the weighing and certification of grain shipped in interstate or foreign commerce, and to carry out the delegated responsibilities under the Agricultural Marketing Act of 1946. These activities are funded by a user fee cost recovery program. The inspection and weighing activities, which are mandatory at export ports and permissive in the domestic area, comprise the national "official" inspection system.

The official inspection system encompasses approximately 5,025 employees. Of this total, 851 are FGIS employees and 4,174 are personnel from agencies and states designated and licensed by FGIS to provide inspection and weighing services in accordance to regulations, law, and policy.

The 851 FGIS full- and part-time employees provide direct on-line inspection and weighing of grain at 59 export elevators. Eight delegated states employ approximately 2,114 employees who provide mandatory official services at an additional 30 export elevators. Under direct oversight, the remaining 2,060 provide permissive inspection and weighing services.

PROGRAM

In fiscal year 1987, FGIS inspected 94.9 million metric tons of grain. This compares to 82.8 million metric tons in fiscal 1986. In spite of the increased exports, we have continued to reduce operational costs where possible. Our operational plans include numerous but reasonable objectives. Among these are: (1) improving the quality of grain handling through the development of new and less cumbersome standards, (2) improving timeliness and accuracy in grading and weighing through new technology, and (3) increasing productivity of administrative staffs through effective management practices.

Impetus for FGIS programs and activities flows from our constituents and the FGIS Advisory Committee recommendations. In fiscal year 1987, the Advisory Committee addressed major issues such as: (1) implementation of the Grain Quality Improvement Act of 1986, (2) uniform loading plans, (3) wheat protein and classification, (4) deceptive practices, and (5) sorghum damage and odor.

FGIS directed programs in fiscal year 1987 to improve the quality of grain through specific initiatives. These initiatives included: (1) reviewing the procedures for the detection and suppression of insect infestation; (2) developing directives which deal with the safe, effective fumigation of rail cars, barges and ships carrying grain; (3) revising the U.S. standards for wheat to require that dockage is certificated to the nearest 0.1 percent; (4) establishing improved procedures for detecting the presence of treated grain in bulk grain marketed for human or animal consumption; and (5) revising the regulations and the U.S. standards for corn and sorghum to implement the Grain Quality Improvement Act.

In 1985 and 1986 damage in soybeans presented merchandising problems. In response, FGIS tightened its interpretation of soybean damage and as a result buyer satisfaction was greatly increased.

Research and development activities involve contracts with research institutes and universities, cooperative agreements through the Agricultural Research Service (ARS), and research conducted by ARS. FGIS plans to continue to engage in and exploit opportunities for technology transfer where possible.

Compliance reviews were expanded to determine whether any discrimination is practiced in the delivery of USDA services. There were no allegations or indications of discrimination in the delivery of FGIS services.

For the third year, FGIS has published crop quality reports for wheat, corn, and soybeans exported from the United States. In calendar year 1986, these reports were expanded to include domestic quality information.

The Agency is improving its productivity. Due to the increase in exports, a significant number of inspections and reinspections are being accomplished. The productivity improvement program has been very successful in field locations. Also, in the administrative area, we have improved the monitoring of research contracts, and we have streamlined delivery of personnel and procurement services through better utilization of personnel and the restructuring of operations. Other administrative areas such as financial management and information management are also being rearranged to improve productivity.

The Agency also initiated actions to improve management through the more effective use of such tools as individual development plans, quality of work life surveys, and training.

EQUAL EMPLOYMENT OPPORTUNITIES

FGIS is aggressively pursuing actions to assure successful implementation of its Equal Employment Opportunity (EEO) program. Recruiting trips are being made to minority organizations and historically black colleges and universities. Job vacancy announcements are being sent to trade associations, grain companies, universities and colleges with high concentrations of potential black or Hispanic applicants. Our Standardization Division in Kansas City and Field Management Division in Washington, D.C., are currently recruiting women and minorities for several vacancies. We have contracted for wheat classification technical services with a vocational service organization which employs and trains handicapped people. In addition, we have contracted with a firm to provide us with automated data processing services. This firm is owned by a woman, who also is a minority. This is a small business "8a" company. We have established a field-based EEO working group designed to promote women, minority, and disabled field employees. FGIS is committed to being a nondiscriminatory employer.

SAFETY

The Agency administers an effective safety and health program encompassing the related functional areas of industrial safety, industrial hygiene, employee health and wellness, employee assistance and counseling program, traffic safety, and workers compensation. In the past year, special emphasis programs including "Just Say No" (to drugs) and "Stop - Think Safety" were implemented. We feel that special emphasis programs such as these have led to the decline in the number of explosions, personal injuries, and deaths.

FGIS maintains a database which provides USDA with information on dust explosions in grain handling facilities. Reports are received and compiled through the cooperative efforts of universities, insurers, trade groups, FGIS field office personnel, and a news clipping service.

During fiscal year 1987 there were 18 dust explosions in grain handling facilities which were reported to FGIS. These caused 15 personal injuries. There were no deaths. This compares to 24 explosions which caused 22 personal injuries and 6 deaths in fiscal year 1986. No Federal employees were involved in these explosions.

SELECTED INITIATIVES

The Agency believes that its efforts in the past year have been responsive to the challenge of improving grain quality. Examples of these efforts are as follows: (1) damage determination in soybeans has been tightened, (2) effective May 1, 1988, the level of insect infestation in grain will be more accurately described, and (3) new regulations have been published prohibiting the addition or recombination of dockage and foreign material to grain. Because of this, we believe that public and foreign perceptions are showing positive change.

User fees

User fee funding represents approximately 81 percent of the total FGIS budget. Increased fees and exports generated positive user fee revenue in fiscal year 1987. Because of this, the outlook for the fiscal year 1988 revolving fund is very positive.

Foreign Complaints

Several importing countries including the Soviet Union have complained about insect infestation in U.S. wheat. Much of the problem has been caused by inadequate storage and fumigation methods. Research now underway should provide new and improved methods of detection and eradication. Presently, the U.S. grain export and fumigation industries are cooperating with USDA in testing a new shipboard fumigation technique which shows promise. Further, FGIS plans to improve its method for detecting insects.

Wheat Protein Complaints

Complaints have been reduced to a minimum due to FGIS actions in 1987. Changes include direct monitoring between the FGIS quality control and inspection points and new national reference samples for standardizing the equipment. Several procedural improvements were adopted and new equipment calibrations were also implemented.

Research Activities

FGIS has committed resources to resolving the wheat classification issues, to field test soybean oil and protein analysis by near infrared reflectance (NIR) and to develop NIR calibrations for the determination of protein, oil, starch, and moisture in corn, and protein in barley. FGIS is pursuing an applied research program to adapt analytical technologies from other industries such as immunoassay testing, digital imaging, and artificial intelligence systems. Our objective is to use these technologies to bring more objective testing methodologies to the official inspection system.

Quality Control Activities

FGIS has developed an improved, centralized Agency-wide quality control program that encompasses all segments of the inspection system. This program will be fully implemented by the end of fiscal year 1989.

CLOSING

Mr. Chairman, this concludes my testimony. I would be glad to answer any questions you or other members of the committee may have.

BIOGRAPHICAL SKETCHES

Harvey P. Wiley, Chief, Financial Services Branch
Federal Grain Inspection Service, U.S. Department of Agriculture

Mr. Wiley was born in Little Rock, Arkansas, on December 9, 1940. He attended public schools there and received a B.S. Degree in Business Administration from Philander Smith College of Little Rock in May 1967. Prior to entering college, he served honorably in the U.S. Army from 1960 through 1963.

Mr. Wiley began his Federal Government career with the United States Department Agriculture (USDA) Soil Conservation Service (SCS) at Little Rock, Arkansas, in May 1967.

He held various administrative positions with SCS in Missouri, Michigan, and Kansas before transferring to the USDA Agricultural Research Service (ARS), Peoria, Illinois, in May 1977. While serving as Regional Budget and Fiscal Officer for ARS in Peoria, he completed a Masters Degree in Business Administration from the University of Illinois in 1981.

In April 1984, he transferred to the Food and Drug Administration's National Center for Toxicological Research in Jefferson, Arkansas, as a Special Assistant in the Office of Management until coming to Federal Grain Inspection Service (FGIS) in Washington, D.C., as a Budget Analyst in September 1987. On February 14, 1988, he was promoted to his current position as Chief of the Financial Services Branch, FGIS.

Mr. Wiley and his wife Ruby have three adult children who reside away from home. Mr. & Mrs. Wiley reside in Mitchellville, Maryland.

James A. Bair

Jim Bair has served as Confidential Assistant to the Administrator of the Federal Grain Inspection Service since April of 1987. In that role, Mr.Bair assists the Administrator in the establishment of Agency policies and regulations. Additionally, he is responsible for Congressional and public affairs.

From 1984 to 1987, Mr. Bair was Marketing Director for the Kansas Wheat Commission in Manhattan, Kansas where he worked with foreign officials and grain buyers promoting sales of U.S. wheat overseas.

Prior to that, he was Coordinator of Member Services for the Grain Elevator and Processing Society (GEAPS) in Minneapolis, Minnesota. He represented that national grain industry association in issues pertaining to grain quality, storage, handling and transportation.

Jim is a native of Arthur, Iowa where his family operates a corn and soybean farm. He holds a Bachelor of Science degree from Iowa State University.

FOOD SAFETY AND INSPECTION SERVICE

STATEMENT OF LESTER M. CRAWFORD, ADMINISTRATOR

ACCOMPANIED BY:

RONALD J. PRUCHA, ASSOCIATE ADMINISTRATOR

JOSEPH A. POWERS, DEPUTY ADMINISTRATOR, ADMINISTRATIVE MANAGEMENT

WILLIAM L. WEST, DIRECTOR, BUDGET AND FINANCE DIVISION

INTRODUCTION OF ASSOCIATE

Dr. GILLES. Mr. Chairman, at this time, we would like to introduce Dr. Lester Crawford, the Administrator of the Food Safety and Inspection Service.

Dr. CRAWFORD. Mr. Chairman, I am pleased to appear before this subcommittee to discuss the budget of the Food Safety and Inspection Service for fiscal year 1989. I would also like to introduce my colleague, Dr. Ronald Prucha, who is Associate Administrator of our Agency. The coming fiscal year holds many challenges for FSIS as we continue to modernize meat and poultry inspection and redirect our program on a more scientific basis.

We have a highly skilled technical and scientific staff that manages a number of activities, including the development and testing of new inspection procedures. As we redirect our efforts to address more effectively the problems of chemical and microbiological contamination of food, our scientific staff grows in importance.

BUDGET REQUEST

Our budget request for fiscal year 1989 is progressive, with specific program improvements targeted to our main goal to modernize and redirect our inspection program. We have submitted a request for $405.7 million for fiscal year 1989. The request allots $231.6 million for slaughter inspection; $96.8 million for processing inspection; $10.5 million for import and export inspection; $29.9 million for laboratory services; and $36.9 million for grants to states. There is no proposal for user fees associated with this budget request.

RESIDUE CONTROL

We are proposing funding for three major new initiatives that are critical to our goals of modernizing and redirecting inspection on a more scientific basis. The first of these specific programs is a strengthening of our residue control programs. To strengthen our control system, we will significantly increase the number of meat and poultry samples tested for chemical residues. For fiscal year 1989, FSIS is proposing to increase the sample size to detect violations for the 0.1-percent level for six critical animal species, chemical compound pairs. For slaughter inspection, the program includes an online residue sampling system. The system is made possible by the introduction of a quick screening method.

INFORMATION SYSTEMS

We are seeking $1.8 million to improve FSIS systems for information collection and presentation, our second major initiative. Improved information systems will allow FSIS to collect and present data in a manner that will ease management of the inspection program.

TRAINING CENTER

The relocation of the FSIS training center to a university site is a third major initiative. FSIS has been refocusing its inspector training program from one that primarily teaches skills to one that augments skills with the scientific and technological background that will be required as the inspection program continues to change to a more scientific, risk-based approach. This initiative would provide for the final stage of the relocation of the training center from Ft. Worth to Texas A&M University.

DISCRETIONARY INSPECTION SYSTEM

We are also pursuing a very important initiative for redirecting inspection to a risk-based program. This is the implementation of the discretionary inspection system which is authorized under provisions of the Processed Products Inspection Improvement Act. Under this act FSIS has the opportunity to design federal inspection systems for meat processing plants with varying levels of intensity related to a plant's record of performance and type of operation. We are not rushing to implement periodic inspection in a haphazard manner, but, rather, have chosen development and testing in a series of steps leading to implementation. FSIS will report to Congress, as required by law, on our progress with program development. The report will include an assessment of phase II testing before discretionary inspection is implemented.

MICROBIOLOGICAL CONTROL

FSIS recently took a significant step by forming, in cooperation with the Food and Drug Administration, a National Advisory Committee on Microbiological Criteria for Foods. This committee will look at all foods to see how processing methods can be adapted to reduce microbiological contamination. We expect the committee to formulate good manufacturing practices that food processors can use in their operations. And FSIS can use these guidelines to assess how well a plant is operating. FSIS reinstituted a policy requiring that surfaces of automatic poultry slaughter line equipment that contact chicken carcasses be sanitized between birds. This step was taken when it was found that sanitizing equipment with 20 parts per million of chlorine dramatically reduced bacteria such as salmonella. We expect to make similar changes involving critical control points in the slaughter operation when research shows us a method that clearly improves a product's microbiological quality.

CONSUMER EDUCATION

To help consumers understand and practice proper procedures, we distribute a number of informational materials and operate a tollfree meat and poultry hotline. In its second year of operation, that hotline received calls from some 48,500 consumers.

CONTAMINATED POULTRY

We have noted concerns raised about the reprocessing of chickens that are accidentally contaminated when some of the contents of the digestive tract spill onto the carcass during removal of internal organs. Under our statutory authority, FSIS has implemented a regulation that permits plants to remove these birds from the slaughter line for cleaning. Studies published in 1975 by the Agricultural Research Service concluded that effective internal washing methods could improve the microbiological quality of contaminated poultry carcasses to basically the same level as normally processed and inspected carcasses.

Mr. Chairman, this concludes my statement. Thank you for the opportunity to testify on the Agency's needs. I will be glad to answer questions you or other members of the committee may have. Thank you very much.

Senator BURDICK. Thank you.

[The statement and biographical sketch follow:]

STATEMENT OF DR. LESTER M. CRAWFORD

Mr. Chairman, I am pleased to appear before this Subcommittee to discuss the budget of the Food Safety and Inspection Service (FSIS) for fiscal year 1989.

The coming fiscal year holds many challenges for FSIS, as we continue to modernize meat and poultry inspection and redirect our program on a more scientific basis. In May 1987, the National Academy of Sciences released a study requested by FSIS of poultry inspection issues. The Academy concluded that our approach to poultry inspection should be broader, more flexible, and more scientific. The study recommended that our inspection program incorporate risk assessment and identify and monitor critical control points. It was suggested that a range of educational programs be provided for people who raise poultry and for those who handle raw broilers in slaughterhouses, at retail, and during food preparation in the home or in commercial establishments. Risks from microbiological and chemical contamination were identified as the most important public health hazards associated with poultry. We have planned several major initiatives to redirect inspection so that it responds more fully to these two persistent areas of concern.

To support the field force, we have a highly skilled technical and scientific staff that manages a number of activities, including the development and testing of new inspection procedures. As we redirect our efforts to more effectively address the problems of chemical and microbiological contamination of food, our scientific staff grows in importance. In fiscal year 1987, we analyzed almost 394,000 samples for residues and adulterants. This number includes 222,000 rapid on-site test samples collected under the "Swab Test on Premises" (STOP) and "Calf Antibiotic Swab Test" (CAST) programs.

FISCAL YEAR 1989 BUDGET

Our budget request for fiscal year 1989 is progressive, with specific program improvements targeted to our main goal to modernize and redirect our inspection program.

We have submitted a request for $405.7 million for fiscal year 1989. The request allots $231.6 million for slaughter inspection, $96.8 million for processing inspection, $10.5 million for import and export inspection, $29.9 million for laboratory services, and $36.9 million for grants to states.

Our budget request represents an increase of about $13.7 million over the amount appropriated for fiscal year 1988. There is no proposal for user fees associated with this budget request. Of this proposed increase, $10.3 million will be used for the Federal employee pay increase and to cover the rising costs of goods and services procured by the Agency. We will be able to provide uninterrupted service to the industry, assure proper supervision of the in-plant work force, and provide for several major program initiatives with this budget funding level.

Stronger Residue Control Programs

We are proposing funding for three major new initiatives that are critical to our goals of modernizing and redirecting inspection on a more scientific basis. The first of these specific programs is a strengthening of our residue control programs, for which we are seeking $7.5 million. The National Academy of Sciences (NAS) report recommended risk-based inspection to better handle microbiological and chemical risks in poultry. Congressional oversight hearings have focused on the need to make the program more productive and efficient while responding fully to such health threats. The NAS report and Congressional committees have agreed with the general direction of the Agency's residue program while recommending increases in the rate of sampling and testing.

To strengthen our control system, we will significantly increase the number of meat and poultry samples tested for chemical residues. At present, the FSIS monitoring program is designed to ensure, with 95 percent statistical confidence, that a given chemical residue will be detected in at least one sample if it is present in one percent or more of the national population of a bird or animal species. The numbers represented by one percent are quite large; for instance, one percent of the swine slaughtered in fiscal year 1987 is over three quarters of a million; in the case of cattle, over a third of a million; and in the case of broiler chickens, over 49 million.

The risk to public health justifies increasing the sampling rate to detect problems occurring in as little as one tenth of one percent of a bird or animal species. For fiscal year 1989, FSIS is proposing to increase the sample size to detect violations for the 0.1 percent level for six critical animal species-chemical compound pairs. Results for each chemical compound will be evaluated to determine whether expanded testing should be continued on those six compounds, or if additional compounds should be added to the testing program. The increase in sampling will require a substantial increase in the resources dedicated to the monitoring program.

For slaughter inspection, the program includes an on-line residue sampling system under which swine entering slaughter establishments will be sampled for residues of sulfa drugs, such as sulfamethazine. The system is made possible by the introduction of a quick screening method, Sulfa on Site, that in-plant inspectors can use. However, under the new system, additional inspectors will be needed to collect and run tests on the greatly increased numbers of samples.

Improved Information Systems

We are seeking $1.8 million to improve FSIS systems for information collection and presentation, our second major initiative. With the development of more scientific methods of food inspection, replacement of the inspector's judgment by objective data is possible in many instances. Improved information systems will allow FSIS to collect and present data in a manner that will ease management of the inspection program. Improvements are for slaughter and processing inspection information systems and for the import information system.

At all levels of the Agency, from plants through area and regional offices to headquarters, FSIS will strengthen the management information systems that are essential to day-to-day operation of the program. A comprehensive study of the Agency's information needs will be completed in fiscal year 1989; the study will provide a blueprint for integrating and supplementing existing systems. The Agency will also complete installation of a workforce assignment system that began in fiscal year 1988. With the system, area supervisors will be able to fill in a quick and economical way the inspector assignment vacancies that are created daily by employee sick and annual leave use.

It was suggested in reports of the Office of Inspector General and the General Accounting Office and in 1987 Congressional oversight hearings that the Agency should rapidly implement its plan to make the import program fully risk-based. The budget request would allow FSIS to implement a risk-based import program. The complexity of monitoring in a risk-based manner the systems and plants of several dozen exporting countries, as well as shipments passing through official import establishments at ports of entry, requires the assistance of modern information systems. Residue, microbiological, and processing information would be included in the data available to the automated system that is used in the on-line scheduling of import inspections. In addition to improving Agency management and review, the system would provide a continuing oversight of import inspection.

Relocation of Training Center to University Site

The relocation of the FSIS training center to a university site is a third major initiative, for which our budget request is $989,000. FSIS has been refocusing its inspector training program from one that primarily teaches skills to one that augments skills with the scientific and technological background that will be required as the inspection program continues to change to a more scientific, risk-based approach. As part of this effort, the Agency is relocating its training center to a university site where academic and scientific expertise and facilities will be more readily available.

This initiative would provide for the final stage of the relocation of the training center from Ft. Worth to Texas A & M University, the use of University professors to supplement the Agency's training staff, and the provision of new course materials and teaching equipment. The University's College of Veterinary Medicine and the Food Science department, in particular, would play a major role in training FSIS personnel. Current FSIS instructors would become adjunct faculty members.

The training center prepares veterinarians, food technologists, and inspectors for inspection and supervisory responsibilities. Some 400 veterinarians and 1,200 inspectors and food technologists are trained annually. The center also trains state inspection personnel and foreign country nationals in meat and poultry inspection.

Food technologists are a recent addition to the inspection force, and with completion of a second training class the number of food technologists in the Agency rose to 30. A third class began training in November 1987. The 27-week food technologist training course includes a combination of classroom and on-the-job training. Classroom training includes scientific areas such as mathematical statistics, food science, microbiology, and other disciplines.

As a partial offset to rising program costs, the Agency is accomplishing program economics in fiscal year 1989 that will reduce costs by over $7 million. Of this amount, $2.4 million will be realized from completion of ADP projects, and $4.7 million from savings resulting from discretionary inspection related reductions in the inspection staff.

Discretionary Inspection

A very important initiative for redirecting inspection to a risk-based program is implementation of the discretionary inspection system. Under provisions of the Processed Products Inspection Improvement Act of 1986, FSIS has the opportunity to design Federal inspection systems for meat processing plants with varying levels of inspection intensity related to a plant's record of performance and type of operation. These systems, known as discretionary inspection, provide for periodic, rather than continuous, inspection at some plants. The law does not affect the requirement for continuous Federal inspection of slaughter plants.

We recognize that there has been a tendency in some plants to use government inspectors for quality control functions that should be performed by plant personnel. For this or other reasons, plant management may prefer traditional inspection to discretionary inspection. However, we feel that discretionary inspection is an integral part of our regulatory reponsibility to determine the appropriate level of inspection for each plant. Thus, plants are not entitled to demand or refuse periodic inspection and there is no formal administrative appeal process.

In 1987, FSIS began pilot tests of discretionary inspection. Phase I of the pilot, which ran from April to June, was carried out in 14 plants in Tennessee. During phase I, the Agency tested the screening process for selecting plants for periodic inspection and tested reducing inspector visits to twice weekly. Screening of plants for phase II of the pilot began in October 1987 and the test is scheduled to run through April 1988. This phase involves further testing of the screening instruments, testing inspection monitoring plans, and randomly scheduling inspector visits.

Forty-eight plants in Chicago, Illinois, were selected to operate under periodic inspection during phase II testing. To prepare for the test, FSIS consulted with the National Joint Council in late January. Training in the phase II test system was held for managers and area office support staff. In addition, all pool inspectors who will be involved in the testing were trained for a week, with representatives from the National Joint Council attending.

The implementation of periodic inspection represents for this Agency the opportunity for the most significant change in direction this Program has ever experienced. Likewise, the changes necessary to implement a program such as this cannot be taken lightly by an Agency with an 80-year history of regulatory precedent. We are not rushing to implement periodic inspection in a haphazard manner, but rather have chosen development and testing in a series of steps leading to implementation. Our regulations covering processing inspection have evolved over decades of experience and center on the requirements for daily plant visitations. Issuance of modified Federal regulations through rulemaking procedures has proven to be a formidable task. When final regulations are published later this year, we expect to begin national implementation.

FSIS will report to Congress as required by law on our progress with program development, as we did in November 1987 in the Annual Report to the Committee on Agriculture of the House of Representatives and the Committee on Agriculture, Nutrition and Forestry of the Senate. And we will issue an assessment report on phase II testing before discretionary inspection is implemented.

Microbiological Control

USDA recently took a significant step by forming, in cooperation with the Food and Drug Administration, a National Advisory Committee on Microbiological Criteria for Foods. The committee is chaired by Dr. Kenneth A. Gilles, Assistant Secretary, Marketing and Inspection Services, USDA; the vice-chairman is Dr. Frank E. Young, Commissioner of Food and Drugs, FDA. The selection of committee members was announced just a few weeks ago. They are representatives from Federal and State food regulatory agencies, the food industry, and academia. They will look at all foods to see how processing methods can be adapted to reduce microbiological contamination. We expect the committee to formulate good manufacturing practices that food processors can use in their operations. And FSIS can use these guidelines to assess how well a plant is operating. The committee's first meeting is tentatively planned for the early part of April 1988.

Early this year, FSIS reinstituted a policy requiring that surfaces of automatic poultry slaughter line equipment that contact chicken carcasses be sanitized between each bird. This action was taken when research studies by the Agricultural Research Service resolved the question of the effectiveness of the practice. It was found that sanitizing equipment with 20 ppm of chlorine dramatically reduced bacteria, such as Salmonella. We expect to make such changes involving critical control points in the slaughter operation when research shows us a method that clearly improves a product's microbiological quality.

In the 1987 report on poultry inspection, the National Academy of Sciences confirmed the importance of consumer education and recommended that poultry products be labeled at retail to tell consumers how to handle and cook poultry to prevent diseases originating from microbial contaminants. In response, FSIS has provided specific "safe food handling" or "safe food care" labeling statements that poultry processors can use on labels of poultry products. The statements give instructions on how to thaw poultry, tell the minimum internal temperature a product must reach after cooking, and give other safe food information. Variations of the statements may be submitted to our Standards and Labeling Division for review.

FSIS has been conducting an extensive consumer education program on food safety. To help consumers understand and practice proper procedures, we distribute a number of informational materials and operate a tollfree meat and poultry hotline. In its second year, the hotline served more than 48,500 consumers in 1987--far more than the 20,000 callers served the previous year. We recently developed a food service training program that includes a 30-minute videotape, "Food Safety Is No Mystery," and an accompanying training manual that food service managers can use to educate staffs in the most critical food safety areas.

FSIS continues microbiological monitoring programs for raw meat and poultry, randomly sampling and testing for Salmonella, a strain of E. coli bacteria, and Listeria monocytogenes. This strain of Listeria caused deaths from contaminated cole slaw in 1981 and Mexican-style soft cheese in 1985. Microbiological monitoring programs show trends for food products and can serve to alert the Agency to potential public health problems.

We have also begun monitoring for Listeria in ready-to-eat products, using a new test. Although no cases of listeriosis (a nationally reportable disease since 1985) have been associated with the consumption of meat or poultry, it is clear that Listeria can be found in raw and ready-to-eat meat and poultry products. Listeriosis is a rare disease, but its severe consequences warrant that preventive action be taken throughout the food industry.

FSIS has approved an enzyme-linked immunosorbent assay (ELISA) test used by the laboratory of the Lundy Packing Company plant in Clinton, North Carolina, to detect trichina in pork. Pork tested at the plant can carry a "Certified Pork" label that includes the explanation "Trichina Tested." In the future, we may see more such pathogen-tested products.

The Agricultural Research Service continues to conduct basic research for FSIS needs. Live poultry research focuses on chemical or biological treatments such as competitive exclusion to eliminate or reduce the levels of Salmonella bacteria in the intestines of the birds, so they reach slaughter with lower levels of bacteria and are less able to contaminate other birds. Research will continue on this and other projects, which could lead to less microbial contamination at stages of slaughtering and processing operations.

The HACCP Concept in Inspection

We have taken a significant step towards reducing microbial contamination with our new pilot test of a poultry inspection system that uses the Hazard Analysis and Critical Control Point (HACCP) concept. This concept was recommended to us by the National Academy of Sciences in its 1987 study of poultry inspection. HACCP is similar to the quality control concept but is much broader in effect because it focuses not only on visible defects such as bruises and feathers but also on invisible microbiological hazards. We will help the pilot poultry slaughter plant in Puerto Rico develop a plan of operation that manages risks by using HACCP principles. With this approach, we hope to make significant progress towards our number one priority of reducing microbial contamination.

Before introducing the pilot program at the plant, we took a number of microbial samples to give us some baseline data on contamination. We will conduct similar testing when the HACCP system is implemented to document any impact the new procedures have on microbiological contamination. We will also conduct specific studies during our pilot testing to see if we can reduce contamination at key points in the plant operation.

We are committing many of our resources to this project so that it can be completed as soon as possible. Additional testing will also be necessary in other plants to see if such a system is workable in differing environments. Throughout pilot testing, we will rely on a panel of outside consultants from academia to review, critique, and offer suggestions at each stage. Once the project is completed and assessed, we hope that other companies will embrace HACCP concepts and apply them to their own operations.

Running concurrently with the HACCP project will be further testing of the Third Generation inspection system, in which the plant has responsibility to sort normal from abnormal carcasses with USDA monitoring. We will use inspectors rather than plant employees at the inspection stations until our HACCP pilot project produces a plant HACCP system that we can have confidence in. At that point, we will substitute plant employees for the inspectors, leaving one inspection station with an inspector whose performance will serve as the standard against which the plant sorters can be judged. Our ultimate goal is to merge the two pilot projects into one system. In further testing, a plant will do bird-by-bird inspection without the presence of USDA inspectors on the inspection lines. For this test, we will have to reinspect each bird using USDA inspectors because the present law does not allow such a system. We hope the result of our testing will be a slaughter inspection system that offers improved microbiological quality of product.

Prevention and Testing for Residues

Recently, attention was focused on a study conducted by the National Center for Toxicological Research of the Food and Drug Administration, which tentatively determined that the drug sulfamethazine causes tumors in the thyroid glands of mice. In response, we have begun an intensified program to prevent and eliminate violative sulfamethazine residues in swine. Sulfamethazine is a sulfa drug used to treat respiratory diseases in pigs; it is also routinely used in subtherapeutic doses in feed to promote faster growth from the same amount of feed and to improve weight gain.

During the past decade, various FSIS efforts have significantly reduced the percentage of violative levels of sulfamethazine in swine. However, the percentage has remained high at an average of 5 percent in recent years.

As part of the intensified program, FSIS has developed a procedure for an in-plant rapid test for residues of sulfamethazine, called the "Sulfa-On-Site" (SOS) test. Details of the planned SOS testing program will be announced in a forthcoming Federal Register notice. We will also encourage use of the SOS test on the farm for pre-testing live hogs before they are marketed. We are continuing to develop new methods that will facilitate the operation of our sulfamethazine testing program.

During February 1988, USDA issued a proposal to expand the identification of all swine in interstate commerce. The proposed system will use resources of FSIS and the Animal and Plant Health Inspection Service to establish a nationwide identification and traceback system. This will make it easier to trace the source of diseased animals or those with drug or chemical residues. The system will enhance our capacity to ensure the safety of the food supply, and will also provide advantages for animal health. One particular benefit will be the improved ability of FSIS to control the persistent problem of sulfa residues in swine. Support for swine identification has been broad, and includes members of the Congress, as well as consumer, scientific, and industry organizations.

In addition to the SOS Test, FSIS conducts the "Swab Test on Premises" (STOP) to detect antibiotic residues in animal tissues within 24 hours. STOP has been used to test dairy cows since 1979 and was expanded to all species in 1982. Responding to the problem of violative drug residues in young veal calves, in January 1987 FSIS increased testing up to 100 percent of young calves in certain plants with the "Calf Antibiotic and Sulfa Test" (CAST). We are evaluating the effectiveness of the new testing pattern before adopting or modifying the interim regulation on CAST testing.

To track residue violations nationwide, we have developed a computerized Residue Violations Information System. FSIS can quickly and easily record all residue violations, identify repeat violators, and follow the progress of enforcement actions. The system links FSIS headquarters and field offices with FDA offices so both agencies can share information and coordinate enforcement activities. Other agencies with responsibilities for animal drugs, such as the Packers and Stockyards Administration, also have access to the information.

FSIS has agreements on controlling residues in product with 11 firms--including 34 plants that produce about 5 billion pounds of poultry, beef, and pork per year. We are now preparing a regulation on verified production control (VPC) that should encourage even greater industry participation. Under a VPC program, a firm controls production and tests products to prevent residues, while FSIS verifies that the controls are followed. In this way problems that could lead to contamination are identified and corrected early in production.

Reprocessing of Poultry

We have noted concerns raised about the reprocessing of chickens that are accidentally contaminated when some of the contents of the digestive tract spill onto the carcass during removal of the internal organs. Under our statutory authority, FSIS has implemented a regulation that permits plants to remove these birds from the slaughter line for cleaning. If a contaminant comes in contact with a cut surface of the bird, however, it cannot be removed by washing or vacuuming--the usual methods--but must be trimmed away. The regulation on reprocessing of poultry, implemented in 1978, is supported by scientific research.

Findings from studies published in 1975 by the Agricultural Research Service, but still relevant today, were published in the Journal of Food Science. Concerning reprocessing, the ARS researchers concluded that effective internal washing methods could improve the microbiological quality of contaminated poultry carcasses to basically the same level as normally processed and inspected carcasses. The study compared microbiological levels of birds that were inspected and passed, contaminated birds, and contaminated birds washed internally with a spray washing device. The microbiological levels of the contaminated and washed birds were shown to be about the same as the uncontaminated control birds.

The authors predicted that more efficient internal washing devices, as compared to the experimental prototype, would improve the microbiological quality of contaminated birds so as to make them microbiologically indistinguishable from passed birds. Such highly efficient commercial washers have been developed and are now in use in the broiler industry.

In 1984, FSIS studies of new carcass washing equipment collected microbiological data on both reprocessed and non-reprocessed broiler carcasses. These studies confirmed the conclusions of the 1975 ARS study. Because scientific research validates our regulation, we have decided to continue using poultry reprocessing procedures. We expect to receive recommendations from the National Advisory Committee on Microbiological Criteria for Foods concerning this practice and other matters related to microbiological quality.

Plants wishing to reprocess contaminated carcasses must submit, in writing, complete details of their procedures to FSIS for approval. When a plant has an approved off-line reprocessing program, the USDA Inspector-in-Charge monitors the procedure and samples the reprocessed carcasses. If the system is not operating properly, FSIS will condemn product, and if condemnations become excessive, FSIS approval of the plant procedure can be withdrawn.

Fish Inspection

Issues concerning fish inspection, including possible mandatory Federal inspection, are being reviewed by the Department of Commerce. FSIS and the Food and Drug Administration are cooperating with the Department of Commerce in the preparation of its study on the matter.

Conclusion

Mr. Chairman, this concludes my statement. Thank you for the opportunity to testify on the Agency's needs. I will be glad to answer questions you or other members of the Committee may have.

BIOGRAPHICAL SKETCH

Ronald Prucha
Associate Administrator
Food Safety and Inspection Service

Dr. Ronald Prucha was appointed Associate Administrator of the Food Safety and Inspection Service on October 25, 1987, succeeding Lester Crawford, who was named FSIS Administrator.

Dr. Prucha, a veterinarian, previously served as the Agency's Deputy Administrator for Inspection Operations for five years. He began his career with USDA in 1962, and worked in the Department's inspection program in Nebraska, Iowa, Missouri, California, and Washington, D.C.

Before joining USDA he was associated with a small animal veterinary practice in Cleveland, Ohio and was a veterinary supervisor for the City of Cleveland's Department of Health. He also served with the U.S. Army Veterinary Corps.

Dr. Prucha holds a B.S. degree in animal science and a doctorate in veterinary medicine from Ohio State University in Columbus, Ohio.

AGRICULTURAL MARKETING SERVICE

STATEMENT OF J. PATRICK BOYLE, ADMINISTRATOR

ACCOMPANIED BY:
- WILLIAM T. MANLEY, DEPUTY ADMINISTRATOR FOR MARKETING PROGRAMS
- LINDA P. MASSARO, DEPUTY ADMINISTRATOR FOR MANAGEMENT
- JOSPEH A. ROEDER, DIRECTOR, FINANCIAL MANAGEMENT DIVISION

INTRODUCTION OF ASSOCIATES

Dr. GILLES. Mr. Chairman, the final presentor this morning will be Mr. Patrick Boyle, the Administrator of the Agriculture Marketing Service.

Mr. BOYLE. Good morning, Mr. Chairman. I appreciate the opportunity to discuss the programs of the Agricultural Marketing Service and our fiscal year 1989 budget proposal. I, too, would first like to introduce my colleagues from AMS who are here this morning: Dr. William Manley, Deputy Administrator for Marketing Programs; Linda Massaro, Deputy Administrator for Management; and Joseph Roeder, Director of the Agency's Financial Management Division.

This year marks the Agricultural Marketing Service's 75th year of service to American agriculture. In 1913, with an appropriation of $50,000, Congress created the Office of Markets, our parent agency within USDA. Today, AMS services are authorized by nearly three dozen statutes and affect a wide variety of our nation's agricultural commodities. I know that you are familiar with the range of our programs; however, I would like to highlight, briefly, a few of our activities during the past year.

Last summer, our market news program, which is AMS's largest appropriated account, responded to the dramatic increase in duty-free imports of fruits and vegetables from Caribbean nations by opening an office in Miami, FL. This office, which is jointly financed by the Agency for International Development, the Florida Department of Agriculture, and AMS, was established to provide accurate price and supply information to domestic producers and wholesalers and to facilitate the expanding trade under the Caribbean Basin Initiative.

A few 1987 developments in our commodity grading and inspection programs are noteworthy. For example, last year AMS inspected over 210 million pounds of imported tobacco for prohibited pesticide residues. The majority of the inspected tobacco met acceptable tolerance levels. However, approximately 400,000 pounds, or about 0.2 percent of all imported tobacco did exceed our tolerance requirement and had to be either reexported or destroyed.

In cooperation with the cotton industry, last year AMS implemented a new fee system for our cotton classing program. Cotton fees are now based on a more accurate formula, which includes such variable factors as estimated crop size, inflation, and carryover balances. This new fee structure was the result of a law passed by Congress last August and ensures the financial stability of our cotton classing program.

In our Agency's beef grading program, AMS responded to requests by consumers, health, and industry organizations' and changed the official name of the "Good" beef grade to "Select." The change, which became effective last November, is intended to provide a more positive image for this grade of beef among calorie-conscious consumers and to provide the beef industry with a new opportunity to market leaner cuts of meat. In 1987, AMS began collecting assessments to finance the advertising and promotion of honey, the eighth such research and promotion program administered by the Agency. To date, we have collected over $1.6 million in assessments on honey.

FISCAL YEAR 1989 BUDGET PROPOSAL

Turning now, Mr. Chairman, to our fiscal year 1989 budget proposal, I would like to note that it is unlike previous budget submissions in that it does not contain requests for additional user fees. Currently, as Assistant Secretary Gilles mentioned, AMS programs are 74 percent user fee funded. For fiscal year 1989, we are requesting $33.1 million for our Marketing Services account and $11.1 million from section 32 for administering our commodity procurement and our marketing agreements and orders programs. The overall appropriated funding level reflects an increase of $200,000 from the fiscal year 1989 level. Specifically, we are proposing an increase of $1.4 million to fund the fiscal year 1988 salary increase and to offset higher operating costs.

Included in our request is $700,000 to develop and maintain a computer data base to enhance the value and efficiency of our market news activities. We are also proposing a decrease of $1.8 million resulting from the elimination of the payments to states program, the wholesale market development program, and the Federal Seed Act. Mr. Chairman, this concludes this summary of my formal presentation, and I, too, would be happy to answer any questions that you may have.

[The statement and biographical sketch follow:]

STATEMENT OF J. PATRICK BOYLE

Mr. Chairman and Members of the Committee, I appreciate the opportunity to appear before you today to discuss the programs of the Agricultural Marketing Service and to present our FY 1989 Budget request. Let me first introduce my colleagues: William T. Manley, Deputy Administrator for Marketing Programs; Linda P. Massaro, Deputy Administrator for Management; and Joseph A. Roeder, Director of the Financial Management Division.

AMS' 75th ANNIVERSARY

1988 marks the Agricultural Marketing Service's 75th year of service to American Agriculture. In 1913, Congress created the Office of Markets--our parent agency--within USDA and appropriated $50,000 "to acquire and to diffuse among the people of the United States, useful information on subjects concerned with the marketing and distribution of farm products..." Today, AMS services are provided through a variety of programs and are authorized by 31 statutes. Our primary legislative acts are: the Agricultural Marketing Act of 1946 which authorizes standardization, grading and market news programs; the Agricultural Marketing Agreement Act of 1937 which authorizes marketing agreements and orders programs; several commodity-specific Research and Promotion Acts; Section 32 of the Act of 1935 which authorizes commodity procurement activities; and the Egg Products Inspection Act.

I know the members of the Committee are familiar with our programs; however, I would like to take this opportunity to mention a few of our accomplishments of the past year.

FY 1987 PROGRAM ACCOMPLISHMENTS

As you may be aware, the Caribbean Basin Economic Recovery Act has resulted in the dramatic increase in duty-free imports of fruits and vegetables into South Florida ports. As the Caribbean initiative gained momentum and imports surged, USDA and the Agency for International Development constantly received inquiries from growers and shippers in the Caribbean area for U.S. market information on their crops. At that time, price and volume information on these imported commodities was scarce and fragmented. To fill that need, the Miami Market News office, which is jointly financed by the Agency for International Development, the Florida Department of Agriculture, and AMS, was established to provide price and supply information. This is our first bilingual office and this service has facilitated trade and helps fulfill the Caribbean initiatives.

Also, in the Market News area, we have been improving the present system of reporting egg prices. A one-day symposium on egg pricing was conducted cooperatively by AMS and the Economic Research Service on September 2, 1987. Symposium participants from industry, government, and the academic community discussed how best to gather shell egg prices for use by the industry and AMS Market News. Participants exchanged views on keeping pace with changes in the egg industry and explored ways to improve the present system of reporting prices. As a result of these suggestions, the egg industry has appointed committees to work with USDA to refine price reporting.

We have improved our commodity donation programs through a Departmental task force established by the Secretary of Agriculture. Schools, which receive the majority of the surplus commodities AMS buys each year, have requested, and AMS has implemented, improvements such as providing smaller packs of commodities to permit easier handling and storage, further processing of certain commodities before they are delivered, a lower salt and fat content in some commodities, a greater variety of commodities to meet the changing preferences of school children, and changes in commodity delivery schedules to permit a more efficient use of State distribution systems.

In our tobacco inspection program, AMS inspected over 210 million pounds of imported tobacco for prohibited pesticide residues. While the majority of the inspected tobacco met residue tolerances, approximately 400 thousand pounds, or .2 percent of all imported tobacco tested, did not meet tolerance requirements. We recently increased the intensity of pesticide testing on imported tobacco to gain greater assurance that residues do not go undetected.

In 1987, AMS, in cooperation with the cotton industry, implemented an entirely new fee system for cotton classing. Cotton fees are now based on a more complicated formula and includes such factors as estimated crop size, inflation and carryover balances. This new fee structure assures financial stability of the program by permitting the fee to be responsive to changes in costs and production levels.

At the request of AMS, the Agricultural Research Service (ARS) is now evaluating light spotted cotton grades versus white cotton grades. This study was requested by growers because of the increasing percentage of light spotted cotton produced in the United States in recent years. Light spotted grades are of a lower quality than white grades and, therefore, reduce producer returns. The study will determine the reason for this occurrence and whether a sufficient difference in processing efficiency and quality exists to justify the difference between the two grade ranges.

In February 1988, the Department announced the creation of a National Advisory Committee on Cotton Marketing which will review and evaluate all aspects of the cotton marketing system and recommend ways of improving its efficiency. The issues which the committee may consider include the impact of high volume instrument (HVI) classing on the price support loan structure, the establishment of spot quotations in the absence of quotations committees, and an examination of possible changes in light spotted vs. white cotton grade standards using the ARS study data.

We are also continuing the conversion of cotton classing from a manual operation to an HVI system. During the 1987 season, automated classing accounted for approximately 40 percent of all cotton classed. The HVI equipment has made available additional fiber quality information to producers and users, allowing manufacturers to match more closely the desired weaving qualities to the cotton purchased. As an adjunct to the continuing automation of the classing process, AMS recently provided classing data electronically on each bale to interested producers and ginners. The innovation not only completed the elimination of manual accounting for cotton bales, but enabled these producers to market their crops two to five days earlier and reduced the cotton classing costs by 7-10 cents per bale.

The Perishable Agricultural Commodities Act (PACA) program has fully implemented the new statutory trust legislation. This program assures payment to fresh fruit and vegetable sellers in the event of a buyer's delinquent payment or financial insolvency. Since its inception in 1985, trust notice filings have increased from a projected 5,000 per year to over 40,000 filings in 1987. In 1987, about $200 million in claims filed with AMS under the PACA trust provision were paid to fruit and vegetable sellers. The total amount of trust claims in fiscal years 1986 and 1987 is almost $350 million. Keeping pace with industry filings under PACA has been a financial burden.

To meet industry service needs, we are submitting legislation to amend the Act to increase the annual license fee ceiling. The license fee currently charged is the maximum allowable by law. Because we anticipate that workload and the cost of the PACA program will continue to rise, we will require an increase in the ceiling to enable the program to remain financially solvent.

In our research and promotion programs, we initiated assessments on domestic and imported honey in February 1987, as required in an order issued under the Honey Research, Promotion, and Consumer Information Act. The purpose of the order is to finance the advertising and promotion of honey to promote its use domestically and internationally. Approximately $1.6 million in assessments on imported and domestic honey was collected in 1987.

Fiscal year 1987 marks the first full year of operation for the Beef Promotion and Research Order and the Pork Promotion, Research, and Consumer Information Order programs. Approximately $70 million in assessments was collected under the Beef program and approximately $26 million under the Pork program to finance and conduct advertising and promotion programs for beef, beef products, and pork. We will conduct industry-wide referendums on these programs to ascertain whether these research and promotion efforts should be continued. The beef referendum is scheduled for May 10, 1988. The pork referendum will be held between September 1988 and February 1989.

In November 1987, AMS responded to requests by consumers, health, and industry organizations, and changed the official name of the "Good" beef grade to "Select." The change will provide a more positive image for this grade of beef and will help calorie-conscious consumers choose leaner cuts of meat.

These are but a representative sample of the accomplishments we have achieved in 1987. We are proud of our accomplishments.

Before I present our FY 1989 budget proposal, I would like to point out a few of the changes and improvements we are planning for FY 1988.

NEW STATUTORY AUTHORITY

The Omnibus Budget Reconciliation of FY 1987 contained three provisions affecting AMS programs and regulatory responsibilities.

The first involves the Plant Variety Protection Act (PVPA) program, which provides "patent-like" protection on new seed-reproduced varieties of plants. This program has historically been funded from user fees. However, the collected fees were returned to Treasury and an appropriation was required to finance AMS' cost of administering this program. As a result of the Budget Reconciliation Act, the collected fees are retained by AMS, thus reducing our need for appropriated funds. However, until the current backlog of applications received while the program was appropriation funded are processed, we will continue to request appropriated funds.

The second provision amended the Agricultural Marketing Agreement Act of 1937 to permit USDA to impose civil penalties of up to $1,000 per violation on any handler who violates a marketing order provision other than provisions providing for assessments. The amendment is expected to deter marketing order violations by simplifying and accelerating the penalty process.

Finally, under the Budget Reconciliation Act, AMS will continue to collect assessments from dairy producers on behalf of the Commodity Credit Corporation (CCC). During FY 1987, we collected for the CCC approximately $717 million in assessments from dairy farmers to offset the government cost of the dairy termination program. Since 1983, we have collected more than $2.2 billion for various USDA dairy programs on behalf of the Commodity Credit Corporation at an administrative cost of approximately one-tenth of one percent of the total assessments collected.

BUDGET PROPOSAL

Mr. Chairman, I would now like to address the specifics of our FY 1989 budget proposal. Our proposal this year is a departure from recent budget submissions which proposed user fee funding for many of AMS' programs.

We propose an increase in funding for our Market News program for the creation and maintenance of a data base of market news information. The data base will make it possible for AMS and other users of market news information throughout the world to access current, as well as historical, market information. These changes will allow greater selectivity in accessing market news data, provide the data necessary to perform trend analyses, provide easier processing of data into useful market information, and improve the timeliness and efficiency of market news reporting. The result will be a fully integrated system providing users with direct access to all market news data, which will significantly enhance its value and efficiency.

We are also requesting funds in appropriated programs for increased operating expenses, such as travel and cooperative agreement costs, so we may continue to provide our current level of service.

And finally, we propose the elimination of the Wholesale Market Development, Federal Seed Act, and Payments to States Programs. State and local governments have the capabilities to continue these activities. For both the Wholesale Market Development and Federal Seed programs we have retained $1.7 million for fiscal year 1989 to finance program close- out costs.

In total, our fiscal year 1989 budget request for Marketing Services is $33.1 million. In addition, $11.1 million would be required from Section 32 for Commodity Procurement administrative expenses and to administer our Marketing Agreements and Orders program. The overall appropriated funding level for fiscal year 1989 reflects an increase of $0.2 million from the fiscal year 1988 level.

The specifics of the proposal include:

-- An increase of $1.4 million to fund the FY 1988 pay cost increase and offset increased operating costs, and $0.7 million to develop a computer data base to enhance market news activities.

-- A decrease of $0.9 million for the elimination of the Payments to States Program.

-- A net decrease of $0.6 million for the elimination of the Wholesale Market Development Program.

-- and a net decrease of $0.3 million for the elimination of the Federal Seed Act program.

Mr. Chairman, at this time, I would be glad to answer any questions regarding our program activities or proposed budget.

BIOGRAPHICAL SKETCH

Linda P. Massaro

On September 8, 1987, Linda P. Massaro became the AMS Deputy Administrator for Management. She previously served as the Assistant head of the Manpower Control Branch at U.S. Marine headquarters. Prior to that she was a senior management analyst with the U.S. Navy and a structural engineer at the David W. Taylor Naval Research and Development Center.

Ms. Massaro is a graduate of the University of Richmond and received her Masters in Management from the George Washington University. She also received a year of post graduate instruction at the National Defense University.

PROPOSED BUDGET REDUCTIONS FOR APHIS

Senator BURDICK. Thank you. That completes your testimony?

Dr. GILLES. That completes our presentation, Mr. Chairman.

Senator BURDICK. OK. I think I will call upon Dr. James Glosser, first. Your testimony, Dr. Glosser, presents us with quite a problem. In your statement, you would like to decrease the animal damage control program by $11.4 million, or to reduce brucellosis by $9,776,000, a decrease of $25.6 million in the plant health program, and elimination of the grasshopper program, and also the Boll Weevil Program. On the animal health side you propose to reduce animal welfare funding by $1,275,000, or pseudorabies decrease by $1.4 million. Those are substantial items, and I understand the budget problems very much. But these are very hefty cuts, and I know that in my state of North Dakota, they are not in a position to assume the funding of these programs; they don't have the budget.

You might reply by saying, We don't have it, either, in the federal government. But the point is, these seem to be very extreme cuts, and for the states to take over this whole activity would be almost impossible. What do you suggest we do about it?

Dr. GLOSSER. Mr. Chairman, the budget we have presented contains reductions and increases which focus on the true federal role in the wide variety of programs. To use an illustration in the brucellosis program, the proposed reduction is consistent with a steady decrease in the incidence of brucellosis, based on a very aggressive campaign against the final stages of the disease. It is consistent with a 5-year phase-down plan, whereby all states will be in class A status or better by the end of fiscal year 1990. This particular reduction was anticipated well in the program and should not result in a resurgence of brucellosis.

If I may comment on the animal damage control program, we recognize that it is an extremely vital program, not only to the Agency, but to all of American agriculture. The budget proposal is an attempt, on our part, to focus on the federal role by assuming the primary responsibility to provide the technical expertise, advice, support, and methods development activity necessary to contain or address animal depredation.

We have focused our moneys to address critical needs such as those at the Denver Wildlife Research Center. The center will be seeking alternative methods to the use of current procedures and will provide data for continued registration of pesticides used in the existing programs.

The boll weevil program in the Southeast is a prime example of industry, states, and the federal government working together. The eradication phase has been completed in North Carolina and South Carolina. The initiatives and the methods development work we have completed have demonstrated the appropriate techniques to the states and the industry. They can now take responsibility for eradication in the remaining states.

GRASSHOPPERS

Senator BURDICK. I don't know anything about the boll weevil. I know something about grasshoppers. Are you going to tell me you have eliminated them?

Dr. GLOSSER. No, sir; the funding requested for fiscal year 1989 gives APHIS the ability to provide technical assistance to other agencies, on public lands particularly. Based on recent biological surveys, egg counts are down and we do not forecast a significant year for grasshoppers. The biology of the grasshopper infestation is a cyclical one that runs in 5- to 6-year periods. We are now in a downward cycle.

I think that the funding we have proposed for an integrated pest management project, is going to, in the long term, allow us to address the problem of grasshoppers in the West with far better technical and control strategies.

Senator BURDICK. What bothers me is that in these various areas we have discussed, you have been making gains. You testified to that.

Dr. GLOSSER. Yes, sir.

Senator BURDICK. Should we just abandon those gains?

Dr. GLOSSER. No, sir; we do not intend to abandon them. I hope that our testimony and the written statements that we have entered for the record demonstrate our resolve to make sure that the technical methods are available to assure that there is no backsliding or slippage in any of these programs. Certainly, it is our role to bring in new technologies to assure that we can address older problems in a much more efficient manner in the future. Working with states and with the support of the industries that we serve, we think we can deliver those types of products or techniques to address the problems.

Senator BURDICK. How are you going to develop those techniques? You are denying the money. Where is it coming from? You have to have studies.

Dr. GLOSSER. We have the moneys.

Senator BURDICK. You have to be in the field.

Dr. GLOSSER. The IPM project, sir, in the grasshopper program, is budgeted for this year and will continue on. It is a 3-year project. We are finished with the first year and are into the second.

Senator BURDICK. On the IPM project, you are appropriating $3 million, and now you have asked for $2 million. So even the programs that you haven't eliminated you have cut severely.

Dr. GLOSSER. Based on our work plan, we will be able to keep the commitments and follow the directives of Congress to complete the IPM project at the requested funding level.

EXPERIMENTAL USE PERMIT

Senator BURDICK. Dr. Gilles, last year you forwarded an application for an experimental use permit to the Environmental Protection Agency to test the chemical CPT on blackbird roost sites. At the time, you asked EPA to expedite review of the application so that the field evaluation of this project could begin as soon as possible. What is the status of that application?

Dr. GILLES. It is currently under review at the present time, Mr. Chairman. Progress is being made. And we are collaborating with EPA in this review.

Senator BURDICK. Do you expect approval and, if so, when?

Dr. GILLES. It seems to be on track.

Dr. GLOSSER. Mr. Chairman, if I may?

Senator BURDICK. Let's let you answer. Since you are familiar with the subject, I will address the question to you.

Dr. GLOSSER. Yes, Mr. Chairman. We have made contact with our colleagues in the EPA. They have begun the review process for the experimental use permit. We have asserted that we would be ready for technical briefings on any questions that they would have so that we could augment the total and thorough review of the application. I can't give you a timeframe from EPA, but we are certainly aware of the need to have that experimental use permit so that we can do our field studies.

Senator BURDICK. If and when you get the approval, how many field sites do you intend to test?

Dr. GLOSSER. That has not been addressed. It will be based on some of the criteria that EPA will put to us, and we are prepared, through our Denver Wildlife Research Center, to respond quickly to the types of sites that would expedite the development or the evaluation of that product.

BLACKBIRD PILOT PROJECT

Senator BURDICK. In the meantime, do you intend to continue the blackbird pilot project which you have been conducting for the last 3 years in North and South Dakota?

Dr. GLOSSER. Yes, sir; we do.

LEAFY SPURGE

Senator BURDICK. We provided $1.5 million for a leafy spurge project in fiscal year 1988. What progress has been made on this project to date?

Dr. GLOSSER. The moneys have been expended in collaboration with the North Dakota State University. We are working out a biological control technique, and we feel that the project is on track and the techniques will be developed for use by the states.

Senator BURDICK. How will the project be funded in the future?

Dr. GLOSSER. Our role is to develop the techniques, and provide the technical direction and support of these programs. The operational moneys are not included in the fiscal year 1989 budget.

Senator BURDICK. Where is the operational money coming from?

Dr. GLOSSER. It could come out of our biological control funds or miscellaneous plant and pest funds.

Senator BURDICK. For the state of North Dakota?

Dr. GLOSSER. Yes, sir; this year's direction of funds is on track. We are providing funds for the development of biological control methods for leafy spurge.

Senator BURDICK. I am sure you are familiar with the plant.

Dr. GLOSSER. Very much so.

Senator BURDICK. It is a very insidious plant.

Dr. GLOSSER. Indeed, it is, sir.

Senator BURDICK. I don't see how we can afford to let up on our programs. Do you think the states can handle it?

Dr. GLOSSER. We certainly hope that they can.

Senator BURDICK. I know that you hope, but do you think that they will?

Dr. GLOSSER. I think they have to. sir.

Senator BURDICK. Well, our Governor tells us we have no extra money. We will have to look at that one very carefully.

Dr. GLOSSER. It is our problem, as well, Senator. We are certainly aware of that.

GRAIN QUALITY IMPROVEMENT ACT

Senator BURDICK. I am aware of that one, too. Mr. Miller, I believe you are next. FGIS has implemented a final rule for implementing the Grain Quality Improvement Act of 1986. You all should have some experience with administration of that act. Are you finding that domestic elevators and export elevators are complying with the act?

Mr. MILLER. Mr. Chairman, so far our experience is rather limited in dealing with the new Grain Quality Improvement Act regulations. The final rules were adopted last summer. They went into effect June 30 as they related to the interior market system, and they went into effect for the export elevators on January 1, 1988. So far, we have experienced no problems on the part of the trade to comply with these rules, nor have we experienced any major violations of the new rules as they were implemented.

Senator BURDICK. How many violations have you identified?

Mr. MILLER. We have identified none up to this point, sir.

Senator BURDICK. None?

Mr. MILLER. None, at this point.

COMPLAINTS BY GRAIN IMPORTERS

Senator BURDICK. Has the new act served to reduce complaints by grain importers?

Mr. MILLER. That is a difficult question for us to evaluate. Our complaints are down from 59 during last year to 11, so far, for this year. It is difficult to ascertain the reason why that reduction occurred. We think that possibly because of the lower price of the grain that is being traded in the international community right now, that this may be a major reason why there are fewer complaints. There is less economic value attached to the grain, and there is less incentive for some of the overseas buyers to complain.

Senator BURDICK. At least at this moment, there are less complaints?

Mr. MILLER. That is correct.

WHEAT CLASSIFICATION

Senator BURDICK. FGIS has been looking into the problem of wheat classification. Last year, you reported that a wheat classification working group was due to report to you in July 1987. Did you receive the report, and what did it show?

Mr. MILLER. Sir, we have not received a final report. The wheat classification group continues their efforts. We are presently in the midst of evaluating three single-kernel testing and analyzing instruments at our technical center in Kansas City, and we are also analyzing bulk sample methodologies.

We expect that in the course of this year, we will have analyzed about 20,000 samples on these new instruments, and we hope that by this fall, we will be able to announce a new methodology for classifying wheat. We are working on this effort in conjunction with the producer groups, flour millers, merchandisers, the Agricultural Research Service and others in government to try to arrive at a solution to this difficult problem.

Senator BURDICK. It shouldn't be very difficult to identify Northern Spring from North Dakota. It is the high-quality stuff. [Laughter.]

Mr. MILLER. I can't argue with that, sir. [Laughter.]

Senator BURDICK. But you are working on wheat classification right now?

Mr. MILLER. Yes, sir.

INSPECTION PROGRAM INTEGRITY

Senator BURDICK. Dr. Crawford, you are going to get the next question. You have been in the forefront of many changes resulting from improved testing and inspection techniques in the detection of microbial containment in the chemical residues that were not even contemplated 50 years ago. I commend you for your ability to lead FSIS in this new age of protection of our meat and poultry products.

Recently you defended the increase in FSIS whistle blower complaints as indicative of the very effective ethics in the meat training sessions that are now characteristically working for you. Will you please explain to the committee how FSIS intends to respond to complaints, and how you encourage integrity of the Inspection Program?

Dr. CRAWFORD. Yes; we have a number of ways that is done. There is the opportunity for employees, at any level, to call the Office of Inspector General with a complaint about fraud, waste, and abuse within the federal government. They may or may not leave their name. It can be anonymous, or they can give their name. If they leave their name, and this is followed up by the Office of Inspector General, a report is made to the Associate Administrator for final disposition.

There is a record kept of all this, and individuals are given the results after investigation of their complaint. I also reported in the address that you referred to that this system has been effective. Fraud, waste, and abuse have been exposed, and we have responded to those exposures. Employees who feel that they have been disadvantaged in their professional development in one way or another may also file a grievance, which is handled through administrative channels, again, leading to my office and the Associate Administrator, and these are processed, and final disposition is made as soon as possible.

Each year, there are a number of grievances filed which are handled as quickly and as fairly as possible. We sometimes find for the employee; we sometimes find for the agency. It depends on the circumstances. Ours is not a perfect personnel system, although I must say that the pattern of these grievances over the years has led to some improvements that are noteworthy.

Finally, employees who are members of the union that represents meat and poultry inspectors may file complaints through that union, and the union may seek the various sanctions that are available to it under the bargaining agreement between me, that is, the Administrator, and the union. Employees who are not members of the union have access, in general, to two other organizations: the National Association of Federal Veterinarians on the one hand, and on the other hand, an Association of Supervisory Officials. We also take these very seriously and meet on a regular basis with the three organizations, and I might add, Senator, a variety of other organizations relative to these kinds of things. We have a large work force, and we are trying to make the system as nearly perfect as possible. However, in order to service the needs of all employees, we have to keep these various channels open and functioning, and I intended to state that unequivocally in the address that you referred to.

FISH INSPECTION

Senator BURDICK. In recent years, there has been a great deal of discussion about expanding federal food inspections to include fish. I am pleased that you are working on an interagency study on this topic. When do you expect to complete this study?

Dr. CRAWFORD. The study is slated to be completed later this fiscal year. The Commerce Department, the Food and Drug Administration, and the Food Safety and Inspection Service have been involved in that study. The logistics of fish inspection are onerous, indeed, and it has taken some time and a great deal of research in order to address this question correctly. We have been aided and abetted considerably by the fact that a number of other countries have fish inspection at this time.

At least one country is generally considered to be a model system. We have learned from that, I might say, that two other agencies of government, the Commerce Department and the Food and Drug Administration have, like we, had fundamental contacts with inspectional systems in other countries over the years, and if, in fact, legislative authority is granted for the imposition of fish inspection in this country, we will largely, I think, use other countries that have been in this regulatory business for a number of years as models.

SALMONELLA CONTROL

Senator BURDICK. The discussion about the presence of salmonella in the processing of poultry was included in the release of a recent ARS study challenging the efficacy of the washing of carcasses. In your statement, Dr. Crawford, you mentioned that an earlier 1975 study is still considered viable, despite the ARS study released last year. Please reconcile for the Committee whether internal rinsing is effective in eliminating contamination.

Dr. CRAWFORD. Yes, Senator; that is a question of considerable controversy. Let me explain the agency's position. With the passage of the Poultry Products Inspection Act in the late 1960's, there was the statutory authority granted to the agency to allow reprocessing of carcasses that had been contaminated with filth; if in the opinion of the agency and of the Department this could be accomplished with no compromise of public health concerns. Reprocessing was also authorized if it could be accomplished in such a way that the microbiological quality of each carcass that was reprocessed would be similar to, or superior to, those carcasses that did not have to be reprocessed.

Following an Agricultural Research Service study in 1975, which showed that reprocessing was consistent with the highest goals of public health and product wholesomeness, the agency, in 1978, elected to allow reprocessing in certain poultry plants. The plants were required to submit to the Administrator a quality control program which the agency would approve or reject. If approved, the plan would allow the reprocessing of these carcasses. A number of plants have taken advantage of that opportunity, and so we now have, as a routine matter, reprocessing of poultry carcasses throughout the United States in FSIS-inspected plants. The study you referred to was a later study by the Agricultural Research Service, conducted in the laboratories at the University of Georgia.

They called into question the adherence of germs to the skin of chickens, specifically, salmonella. This was a time study in which the researchers concluded that it is very, very difficult, indeed, to cleanse the poultry skin of salmonella organisms. It had previously been assumed that disinfection methods and sterilization through the use of acetic acid, or perhaps some other approved products, might reverse the adherence of these germs to the skin. This now has been called seriously into question by that study.

I think the study did not say that reprocessing was not possible, but it did say that we have a new factor, and that for some unknown physiological reasons, these organisms cling tenaciously to the skin of poultry. We are following up on that study with a project now that is being conducted in a large poultry plant in Puerto Rico. We are doing a study of what is called hazard analysis critical control points. We are trying to find where in the slaughter operation the carcasses are becoming cross-contaminated.

We are trying then to introduce methods on a research basis that would prevent that, and if not prevent it, at least introduce some methodology to cleanse, purify, or sterilize the carcasses once they pass that point, and then finally, to see whether or not reprocessing is still viable as we believed it to be in the late seventies, when this was allowed. The 1975 study, as far as we are concerned, has not been refuted in the scientific literature. However, it has been called into question by the very study that you mention.

SUNFLOWER SEED OIL PURCHASES

Senator BURDICK. Mr. Boyle, what is the status of the mandated purchases of sunflower seed oil through section 32 for export promotion?

Mr. BOYLE. That matter is being handled jointly by FAS and ASCS. ASCS is responsible for making the purchase required by the Agriculture, Rural Development and Related Agencies Appropriations Act of 1988. FAS is responsible for the administration of the export aspects of the program. AMS involvement in this effort primarily has been to set aside the requested amount of section 32 funds to enable ASCS to make the purchase.

Senator BURDICK. When do you expect that these purchases will be completed?

Mr. BOYLE. Since I am not privy to the status of that effort within ASCS, I can't comment definitively. I know generally, however, that they are working with FAS to complete that purchase.

EMERGENCY SURPLUS REMOVAL

Senator BURDICK. Between fiscal years 1987 and 1988, the cost of emergency surplus removal increased from just over $12 million to $27 million. What was the reason for this increase?

Mr. BOYLE. The increases that you refer to, Mr. Chairman, are the result of our expenditure of funds from the contingency fund under the surplus removal program authorized by section 32. Each year, we use approximately $350 million for the FNS National School Lunch Program. Approximately $225 million held in a contingency fund is also available each year on an as-needed basis to purchase surplus commodities, stabilize market conditions, and increase producer returns.

The increase to which you refer is the result of an increase in emergency purchases from the contingency fund. I would be happy to provide you with a list of the specific commodities that we purchased last year for fiscal years 1987 and 1988.

[The information follows:]

Emergency Purchases—Fiscal Years 1987 and 1988

	Fiscal year 1987
Cherries	$9,500,000
Figs	2,000,000
Blackberries	400,000
Total	11,900,000
	Fiscal year 1988[1]
Applesauce	4,000,000
Sliced apples	4,000,000
Dried date products	3,000,000
Walnuts	4,000,000
Prunes	12,00,000
Total	27,000,000

[1] As of February 18, 1988.

Senator BURDICK. Why is it that the budget is not recommending any funds for emergency surplus removal in fiscal year 1989?

Mr. BOYLE. Since these are emergency purchases, we are really not in a position to speculate as to how much we will need during any fiscal year. As emergencies arise we dip into that fund during the course of the fiscal year. At the start of each fiscal year, we replenish the contingency fund to the total $225 million.

DISASTER RELIEF PURCHASES

Senator BURDICK. In fiscal year 1988, $6 million was provided for disaster relief purchases. Yet, no funding was made available in fiscal year 1987. Does the budget request include funds for disaster relief in fiscal year 1989? What commodities were these funds used to purchase, and for what purposes?

Mr. BOYLE. The fiscal year 1989 request does not project the use of funds for disaster relief. However, should such emergencies arise, money would be available within the contingency fund to provide relief as authorized by the Disaster Relief Act of 1974. The $6 million expenditure for disaster relief assistance to which you referred is required under the Compact of Free Association for the Republic of the Marshall Islands and the Federated States of Micronesia. The Compact requires the continuation of disaster assistance to the Marshall Islands and Micronesia pursuant to the Disaster Relief Act of 1974. Under the Disaster Relief Act the Secretary must provide food assistance to victims of major disasters, including, if necessary, the purchase of foods with section 32 funds. The Isle of Truk, for example, has received about $6 million of disaster assistance, primarily rice, to help them during a recent major disaster. There is also another island in the Pacific called Ebeye that has received 205,000 dollars' worth of disaster relief assistance under these authorities.

Senator BURDICK. Senator Grassley.

Senator GRASSLEY. Yes.

Senator BURDICK. You may proceed.

GRAIN QUALITY IMPROVEMENT ACT

Senator GRASSLEY. Mr. Chairman, thank you very much. My staff has told me that you have already asked about some things dealing with grain quality. I don't want to repeat what you went through, but I do have a couple of points I would like to ask Mr. Miller.

First of all, I would like to applaud your efforts to implement the Grain Quality Improvement Act of 1986. Thank you very much. We all know that a quality product is very important in helping us enhance our current trade imbalance and winning back some of our lost markets. This act called for a feasibility study of adjusting payment schedules for grain to include premiums for high-quality grain. I am aware that you sought comments last spring regarding the possibility of implementing a schedule based on quality. As a result of this request for comment, have any steps been taken to implement a program of premiums for high-quality grain?

Mr. MILLER. Thank you very much for the compliment, Senator Grassley. The proposal to provide a premium for an optimum grade of grain as provided in the Grain Quality Improvement Act was assigned to the Agricultural Stabilization and Conservation Service to study and implement. They did publish the proposal, requested and obtained comments and filed a report with the respective authorizing committees in support of the concept.

I am not current as to what their plans are for adopting or implementing some type of a followup proposal to put that into effect.

Senator GRASSLEY. I think what you are telling me is I have got to ask them when they come before us.

Mr. MILLER. That is correct, sir.

Senator GRASSLEY. OK. I am sorry. You had some mention in your statement about $1 million allocated for new programs under that 1986 act. You said that the money was targeted toward compliance monitoring at export elevators. Could you explain how you are enforcing the Grain Quality Improvement Act, if an exporter is determined that he is not going to be in compliance?

Mr. MILLER. We have personnel stationed at all the export elevators, as you are aware. As a part of their regular responsibilities, they are assigned the task of roaming through the facility at least once during every shift to observe that all the seals are in place on the diverter samplers and that all of the operating procedures are being followed in the house. Each one of the export elevators has special equipment controls that have interlocks over which we have access and control. We constantly monitor these control panels during the loading of export vessels, and we feel that the current system provides us with adequate controls over the export loading.

PSEUDORABIES

Senator GRASSLEY. Dr. Glosser, I made some comments to Secretary Lyng about how appreciative I was of the $1 million for pseudorabies, and I also made a comment about how I hope to maintain the present level of funding. I am not asking your comment on our attempts on that. But I would be interested in your comments regarding the future pseudorabies eradication plan and, specifically, does this plan have your full support?

Dr. GLOSSER. Thank you, Senator Grassley. The pseudorabies eradication plan that has been put together over the last 6 or 7 years is, indeed, a very unique approach in that it was industry driven; it originated from the grassroots, and we have long said in the federal role of a coordinator, we will take responsibility and leadership for national uniformity. The plan that has been engendered and has gone through review after review at local, regional, and industry levels, is a very sound one, technically and scientifically. We think it is one that certainly has the technical requirements that earmark it for success. Coupled with the industry's desire and support, we think that it is an excellent eradication plan.

Senator GRASSLEY. OK. But then the bottom line is, does it have your full support?

Dr. GLOSSER. It has our support in taking the coordination role, yes, sir.

Senator GRASSLEY. Does it have your full support in the end that it seeks?

Dr. GLOSSER. Yes, sir; it does.

ADVISORY COMMITTEE ON MICROBIOLOGICAL CRITERIA

Senator GRASSLEY. Dr. Crawford, I support the Food Safety and Inspection Service's efforts in forming a National Advisory Committee on Microbiological Criteria for Food. This committee appears to strike a balance between protecting the consumers, the utilization of available sciences, and the interest of agriculture, which are prime to my state. You mentioned meetings of this committee are scheduled for April of this year. Of course, I realize this is a very time-consuming task, but I am interested to know when you expect this committee to produce a final report with recommendations.

Dr. CRAWFORD. The committee is meeting, as you mentioned, Senator Grassley, April 4 and 5. That will be an organizational meeting, and we will set, among other things, its annual agenda.

Senator GRASSLEY. I think I am going to have to quit, because we have got a second set of bells. They don't wait for us any more like they used to. [Laughter.]

Senator BURDICK. We will be in recess for 10 minutes.

[A brief recess was taken.]

Senator BURDICK. Senator Grassley.

Senator GRASSLEY. Would you take up where we left off?

Dr. CRAWFORD. Yes, Senator. I will not ask you to restate the question. I will try to proceed. The Microbiological Criteria Committee, which, as you mentioned, has now been formed and appointed by the Secretary of Agriculture, is having its first meeting on April 4 and 5 under the leadership of Dr. Gilles, to my right. The committee is a joint committee between the Food and Drug Administration and USDA. They will look into the whole range of these questions about bacterial contamination of food.

The first meeting will be organizational; it will focus on what the committee's work plan will be over the year; how often it will need to meet; and will set some realistic goals in terms of its output. The committee does not have sunset language built into its appointment, and so we think it will be dealing with many of these questions over a period of years. However, we will set an annual plan for the committee, and the short answer to your question is, there will be a report annually, and we expect that the questions that are of particular significance here and now in terms of public health questions, will be addressed and reported on this fiscal year. In other words, by next November, we should have a report.

IMPORT INSPECTION

Senator GRASSLEY. My last question, then, will be to you, Dr. Crawford, again. This is on this importation of meat coming into the country. Some of us in Congress think this meat ought to be kept out because of the residues that we do not allow in this country, yet are in the foreign meat imported into the United States. Can you explain to me the risk-based import program that your service has? It is my understanding it is now in the process of being implemented.

How long is it going to be before we are going to be able to stop agricultural products from being imported into the country which do not meet the standards set forth for our domestic producers?

Dr. CRAWFORD. Yes; I would be pleased to go into that. We are, as a result of some internal investigations, engaging in dialog with the Congress, and also as a result of a National Academy of Sciences report, we are streamlining and modernizing our import inspection system to focus on true risk, primarily bacterial risk or microbiological risk and also chemical residue risk.

We also are moving toward inspection at the port of entry and away from allowing imported meat products to travel on a land bridge within the United States. In other words, our inspection, or reinspection, as we call it, is to be done at the port of entry, and we want to either accept or reject that product based on that.

In order to do that, we have had to have some facilities constructed, and we have had to do some training within the inspection force, and we have had to establish these risks. We require of a country wishing to export to the United States, that its inspectional system and its residue control system and other public health aspects be the same as in the United States, or at least equal to. In order to do that, a country has to apply, as you know, and then we have to go and deal with the country and certify that yes, the country is eligible to apply for exporting to the United States. When that is accomplished, then they may nominate plants, which we also inspect, and if a plant is deemed eligible, then exporters can actually begin.

As you know, we have more countries approved than we do countries that actually are exporting because of this. One of the main parameters that we deal with is, are they able to control chemical residues, which is your specific question. Once we are able to assert that they are, that they do it domestically and they will do it in those plants that are exporting into the United States, then we reinspect, and we also take new samples when they arrive here.

We have a statistical plan, which is published, that will enable us to be sure that they are doing what they should be in the country of origin, and if and when they are not and residues do sneak through, then we begin a series of sanctions which can include enhanced reinspection; it can include examination of each and every container; eventual abrogation of our agreement with them. In other words, we can cut them off from exportation. That has been done in the past.

Senator GRASSLEY. I think you have been very thorough in your explanation, but the bottom line of my question is, you are on some kind of a timetable. At what point are we going to be able to keep this meat from coming into the country? What sort of prognostication or what is the timetable or what is the date out there in the future when we know that your work is actually going to be keeping some of this product from coming into the country?

Dr. CRAWFORD. The risk-based inspection program that you mentioned is scheduled for implementation in 1989. At the present time, though, we are interdicting samples of products that are contaminated when they come in. We have had a recent event involving some Australian meat which had residues in it last summer, and we had to deal with that government in terms of an enhanced inspectional program on their part which was very costly, and then we enhanced our reinspection. So we are doing that even as we go along.

Senator GRASSLEY. Do you have enough statutory authority and funding to get this new program underway?

Dr. CRAWFORD. Yes, sir; we do.

Senator GRASSLEY. Thank you, Mr. Chairman.

Senator BURDICK. Senator Chiles.

MARKET NEWS COOPERATIVE AGREEMENT

Senator CHILES. Thank you, Mr. Chairman.

Mr. Boyle, I understand that the Agricultural Marketing Service recently completed a cooperative agreement with the University of Florida to study the feasibility of computerizing the market news program of AMS. What conclusions did that study make?

Mr. BOYLE. We have had a number of cooperative agreements over the years with the University of Florida involving our market news program. Our most recent contact with the university that you mentioned involved a request that the university take a look at a data base that they had developed to supply market news data for Florida-produced fruits and vegetables to see whether or not that system would be applicable nationwide to all the commodities for which we provide market news data.

Senator CHILES. What were your conclusions for plans for computerizing market news?

Mr. BOYLE. We have concluded that the movement toward a computerized data base makes a great deal of sense for our market news program. Indeed, to take the first steps to implement this program, we have requested an additional $650,000 in the fiscal year 1989 budget.

Senator CHILES. Were you basically pleased with the work done by the University of Florida?

Mr. BOYLE. We were satisfied. We believe that it did indicate that the market news data base is feasible. Our program people who administer the market news program believe that the data base would be beneficial to the users of our market news system. To make this system available we are beginning the process to go out competitively and seek proposals to develop an AMS market news data base.

Senator CHILES. That is what I want to talk to you about, because I am sure that you were pleased with the study. For that reason, I understand you notified the university in December 1987 that you plan to enter into a cooperative agreement with the university to develop a data base for the entire market news data base network. Certainly, they had demonstrated their expertise with market news.

Mr. Chairman, I would like to ask that a copy of that letter be made a part of the record in my questioning at this time.

Senator BURDICK. Without objection, so ordered.

[The letter follows:]

LETTER FROM BRUCE E. LEDERER, MARKETING SPECIALIST

DECEMBER 24, 1987.

JOHN VANSICKLE,
University of Florida, Institute of Food and Agricultural Sciences,
McCarty Hall, Gainesville, FL

DEAR JOHN: This is to notify you that the Agricultural Marketing Service of the USDA plans a Cooperative Agreement with the University of Florida to obtain the services of you and Tom Stevens to participate in the development of a data base for our market news network. We hope to accomplish this shortly.

Sincerely,

BRUCE E. LEDERER, *Marketing Specialist.*

HONORING THE MARKET NEWS COOPERATIVE AGREEMENT

Senator CHILES. That letter sent to the university by Mr. Bruce Lederer of your staff notified them of AMS' intent to enter into another cooperative agreement, and in light of that, I want to know why it is that we are hearing that AMS does not plan to honor that agreement?

Mr. BOYLE. The letter to which you refer is both premature and regrettable. After that letter was sent in late December, the internal decision on whether or not to proceed with a data base and if so, how to legally proceed with the effort has been discussed at length. It has come to our attention that as we move from the Florida data base feasibility study, which we initiated under a cooperative agreement, to actually beginning what will be a $650,000 procurement of goods and services to implement this data base proposal, that the appropriate way for us to proceed under federal procurement laws is to go out publicly and seek competitive bids to provide us with that service.

Senator CHILES. I like competitive bidding. That is something we all talk about, but it seems to me that we do have an agreement here. AMS doesn't usually enter into legal agreements and then not honor them, do they?

Mr. BOYLE. No, sir; we do not. However, in this case I do not believe that a cooperative agreement was actually agreed upon by AMS policy officials. Subsequent correspondence between the university and the agency clearly indicate that the university itself did not view the December letter as a final decision. I would be happy to share some of that correspondence with you.

[The information follows:]

LETTER FROM JOHN J. VANSICKLE, ASSOCIATE PROFESSOR, UNIVERSITY OF FLORIDA, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

February 8, 1988

J. Patrick Boyle, Administrator
USDA Agricultural Marketing Service
South Building
Washington, D.C. 20250

Dear Mr. Boyle:

I would like to provide you some important facts before you make your final decision concerning the market news project I have proposed with USDA, AMS. It is my strong belief that a careful and objective review of our background and qualifications will indicate that our team is far and above the most suitable and economically viable to direct and conduct this project. I know you have received conflicting views concerning this project, primarily from your IRMD staff (i.e., Mary Ellen Condon) and Bruce Lederer. From the experiences we have accumulated over the past 2 years of close interaction with your agency, it is our sincere belief that their motives in this project are not so much related to its approval or eventual success as they are based on a longstanding bureaucratic rivalry that exists between your management and commodity divisions.

I think it is important to realize how this project was initiated and some of its history. I began working with market news in 1983. I developed a program to help disseminate fruit and vegetable market data collected by the WinterPark, Florida office to agricultural extension offices and growers throughout Florida.. The USDA Science and Education Administration funded this work through a project with the University of Florida. Shortly thereafter Jim Toomey (then with your MRD staff) and I wrote project that was funded by AMS in 1984 to develop a computerized market news service for the produce industry in Florida. We have successfully developed two viable market news databases to provide a text-oriented data retrieval system for AMS reports. One database is available exclusively to our agricultural research and extension personnel while the other is available to private industry. Rutgers University and the University of Minnesota have begun using our data and many of our programs to develop market information systems in their own states. These programs helped me to win the Southern Agricultural Economics Association (with more than 1,100 members) Distinguished Professional Contributions Award and the American Agricultural Economics Association (with more than 3,000 members) Award for Professional Excellence in 1987. These awards confirmed the recognition of my peers that the progress we were making was of great value to the agricultural industry and to your market news service.

A major problem we encountered in the course of these two projects was the difficulty in selectively retrieving and processing the data contained in market news reports. We found from our encounters with both private information users in the industry and AMS market reporters themselves that this was a serious limitation to the usefulness and efficiency of AMS market news services. In August, 1986 we proposed a research project to develop a sophisticated computerized database for AMS market news reports. We proposed doing this first for the Fruit and Vegetable Division as a prototype, and if that program proved successful, then for the other commodity divisions. AMS responded by funding a feasibility study for creating such a database for all commodity divisions. The rationale was that this would allow us to evaluate the operating practices of all AMS market news branches and this would then facilitate the concurrent development of a system most beneficial to all divisions.

In the course of this study we visited more than 20 market news branch and field offices located throughout the United States and have spent over 150 hours in discussions and consultation with AMS clerical personnel, market news reporters and market news branch chiefs. The remaining efforts spent over a 16 month period included assembling a complete library of AMS market news reports on electronic media, analyzing data collection and processing forms collected from the 20 various reporting offices, consulting with computer equipment manufacturers and database specialists, doing general research, and reviewing and editing the manuscripts. We made three formal presentations to the functional committee. The only concerns expressed about the project prior to the final presentation were by IRMD and related to legal ramifications of public access to government databases and contractual issues with regard to EDI and Martin-Marietta.

We completed the feasibility study in November, 1987 with a recommendation that AMS develop a centralized electronic database market information system. We included an initial proposal discussing the intentions of our project at that time. Following the final presentation Mr. Lederer expressed complete satisfaction with the quality of our work. The functional committee subsequently met and despite doubts expressed by Ms. Condon as to our qualifications to develop and implement the project, endorsed our recommendation, and encouraged its rapid implementation. In response to Ms. Condon's comments at that meeting, Mr. Lederer noted that we had included costs in the proposed budget for database consulting and programming services. He suggested a seminar be held for the functional committee by a database specialist. On December 24, 1987, we received a notice from Mr. Lederer that "the Agricultural Marketing Service of the USDA plans a Cooperative Agreement with the University of Florida to obtain the services of you (i.e., me) and Tom Stevens to participate in the development of a database for our Market News network."

Bruce Lederer selected a consultant, Mr. Gorman, without consulting us. Our impression of the purpose of his first visit (December 16, 1987) was to talk to the branch chiefs in general terms about databases. His initial seminar turned out to be a sales promotion for his company, Whitemarsh Information Systems Corp. Mr. Lederer strongly pressed us to accept Mr. Gorman as project consultant. We expressed reservations concerning Mr. Gorman for several reasons. First Mr. Gorman was the only individual Mr. Lederer had interviewed with respect to this role. We felt it was more prudent to interview at least 3 or 4 recommended individuals before making a selection. Second, one of Mr. Gorman's references, Mr. Patrick J. Rice of Peoria Engineering Corp, indicated that Mr. Gorman has personality characteristics which might create problems for us. He told us, and I quote, "he could be described as a bull in a china shop". Also, Mr. Gorman's only formal training consists of a degree in education. Finally, Mr. Gorman openly admitted at his seminar that significant portions of the material he was presenting were in fact not his own and had been plagiarized from other authors.

We proceeded to conduct a search for database consulting services in early January and interviewed 4 different individuals. The candidates were evaluated on their merits with respect to the project. We felt Dr.'s Stanley Su and Herman Lam were eminently qualified to serve this role and they agreed to do so. Dr. Su has kindly donated over 18 hours of his time to date in consultation with us and to travel to Washington to make a presentation to the functional committee (January 22, 1988) which you attended. At this meeting numerous questions and criticisms where presented to myself and Dr. Su. I feel we more than adequately addressed those concerns at that point in time.

The credentials of Mr. Lederer's consultant should be considered inferior compared to the staff of people we have in Florida, including me, a winner of 4 national awards in the last 8 years (2 of those directly due to my work in market news), and Stanley Su, the Director of the Database Research and Development Center at the University of Florida. Dr. Su is world renowned for his work in developing databases.

Some of your staff have kept presenting a moving target of criticism to prevent us from participating in this project. While we were under the impression that we could begin the project, Mary Ellen Condon and Bruce Lederer were carefully making negative comments about our proposal that have confused you (and Ms. Masaro) and made it difficult for you to make a decision. Most of the questions they have raised have only been brought up while we were not in attendance.

I am most amazed by this recent criticism from Mr. Lederer. I think it is interesting that just prior to these comments he expressed to me a desire to share authorship on the documentation of the feasibility study. My response was to politely remind him that he had not contributed anything more than editorial comments in its composition and that he should have indicated his interest in this regard earlier in the study.

During our numerous interviews with market news personnel it became apparent to us that there have been many issues on which the commodity and management divisions have been at odds. I don't propose to completely understand why this is so, but I do feel that it has in the past and is now working to the detriment of AMS as a whole. It is important to note that the commodity branch chiefs and their organizations are the people who will be providing the bulk of the cooperative effort in this project and stand benefit the most from it. These are the very same individuals who have supported and encouraged us to pursue this project all along and who continue to do so.

The bottom line with respect to this project is that nobody can be more qualified to successfully implement this project than we are. We have worked with market news longer and accomplished more in this area than anybody outside your market news commodity branches. The market news branch chiefs have supported us on this project because of the quality of work we have done in the past. It would be a shame to let someone who has worked out an agreement with a Washington consultant and another from IRMD who has alienated the commodity market news branch chiefs for prior lack of accountability, to alter our course.

I believe we should initiate negotiations to begin this project immediately. I have not seen a counter proposal from AMS concerning our proposal. If there are concerns, let's work those out and start on solid ground. I know we have the best and most efficient talent for this kind of work. I hope you recognize this and embark AMS on a path to give them the greatest improvement in market news reporting ever. A decision to go with us will assure that. A different decision leaves many doubts about the future of this program.

Respectfully,

John J. VanSickle

John J. VanSickle
Associate Professor

OPINIONS ON COOPERATIVE AGREEMENT

Senator CHILES. I don't know about that correspondence, but I do know a little bit about procurement, and I think you have, under basic procurement, I think you have entered into or signaled your intent to enter into that agreement.

Do you have a legal opinion from your general counsel that says that you need to go out and competitively bid on this?

Mr. BOYLE. I have received opinions from both procurement and cooperative agreement experts on this effort. This is not really, Senator, a policy matter to be resolved. It is a question of legal interpretation of how federal contracting and cooperative agreements should be used in different circumstances.

Senator CHILES. Legal interpretation usually gets your legal counsel to make that interpretation, do you not?

Mr. BOYLE. The general counsel has indicated to us that there is a problem.

Senator CHILES. Do you have an opinion from your legal counsel that said you needed to go do this on a competitive basis?

Mr. BOYLE. We do not have a written opinion to that effect, Senator.

Senator CHILES. Have you submitted in writing a request to your legal counsel as to whether you needed to have a competitive bid?

Mr. BOYLE. As a followup to the verbal comments that were received from both the general counsel's office and our procurement offices within the Department, we have submitted to our general counsel a request for a more formal opinion.

Senator CHILES. You have submitted that in writing?

Mr. BOYLE. Yes, sir; we have.

Senator CHILES. Would you give me copies of that correspondence? I would like to see that.

Mr. BOYLE. I would be pleased to provide that information.

[The information follows:]

Initially, AMS handled the legal question of contracting for the data base by requesting clearance from USDA's Office of General Counsel on a proposed response to a letter regarding this matter. During this internal correspondence review, the Office of the

General Counsel concurred that the development of a market news data base contemplates a procurement relationship and that a contract is the appropriate legal instrument.

To further clarify the issues, AMS wrote to the Office of General Counsel and formally requested a written legal opinion on whether a contract or cooperative agreement was appropriate for this procurement action.

[Both the agency's request and the general counsel's response follow:]

Request for Legal Opinion Regarding Federal Assistance Versus Procurement

MAR 3 1988

To: J. Michael Kelly
Associate General Counsel
Legislation, Litigation, Research & Operations
Office of General Counsel

From: L. P. Massaro
Deputy Administrator, Management

L. P. Massaro

Subject: Request for a Legal Opinion Regarding
Federal Assistance versus Procurement

Under the provisions of Section 203 (g) of the Agricultural Marketing Act of 1946 (7 U.S.C. 1621-1627), the Agricultural Marketing Service administers a Market News program whose mission is to collect, analyze, and disseminate information on the supply, inventory, price, movement, and related market information for numerous agricultural commodities. The dissemination of this perishable market information is currently accomplished through radio, television, newspapers, tape recorded messages, teletype, and printed and mailed reports.

With the ever increasing utilization of computers and electronic transmission of data by the agricultural industry, AMS has been attempting to upgrade its methods of dissemination of market news data. We are currently utilizing a satellite based system for the rapid electronic transmission of market news data between market news field offices and headquarters. However, this more rapid transmission in itself has not completely resolved our concerns for improving the efficiency of our dissemination methods.

As a result of these concerns, the agency, in fiscal year 1986, entered into a cooperative agreement with the University of Florida to study the feasibility of developing a more efficient and complete market reporting system. The results of this cooperative effort described the operations and procedures of each of the segments of the market news service, identified common elements, and defined their overall objectives and information requirements. In addition, an alternative information dissemination system that would effectively satisfy these requirements was also identified - namely a database system that would encompass all AMS market news data in the same format and be accessible by computer. AMS would like to pursue such a system, however, we are concerned with what legal instrument - cooperative agreement or procurement contract - should be utilized to implement the proposed database system. The following paragraphs provide information in greater detail regarding agency actions leading up to this point.

The University of Florida was awarded the sum of $30,000.00 in September 1986, under AMS Cooperative Agreement No. 12-25-A-3140 for the purpose of conducting an analysis of the AMS market news system with a view toward increased use of computers for data manipulation, including the possibility of the creation of a database. Several alternatives were to be explored and described in report form, including estimated costs for the implementation of each alternative. The cooperative agreement was to be effective September 1, 1986, and to be concluded with the submission of final reports in May 1987. It was later amended to provide $5,000.00 in additional funding and to extend the term of the agreement for an additional 7 months. The authority for the cooperative agreement used to fund this study is contained in Section 203 of the Agricultural Marketing Act of 1946, 7 U.S.C. 1621-1627, which authorizes assistance in the conduct of studies designed to bring about a more efficient marketing system.

The results of the funded project, as presented to AMS, supported a view that the development and implementation of a nationwide AMS market news database, available not only to all AMS market news offices, but to certain classes of public and industry users as well, would indeed achieve increased efficiency in the marketing system. AMS management decided to pursue the matter further.

In November 1987, a proposal was received from the University of Florida for a project to develop and implement such a system. The proposal outlined a schedule for such a system containing a database of all AMS market news information to be implemented at the University, operated by them, and accessible to the public. Discussions at that point centered around a follow-on cooperative agreement with the University to assist them in their effort to disseminate agricultural market news.

However, as discussions progressed internally in AMS and with the University, concern began to surface in AMS regarding the control and data security involved in such an arrangement, and thinking evolved to the position that such a system must be implemented at AMS Headquarters in Washington, controlled by AMS, with restricted public access. Due to this evolution in overall intent - from assisting the University in their efforts to implement their market news database system to an AMS owned and operated system - much debate has occurred regarding the method, or type of document, to be used to achieve implementation. The University is requesting an assistance document be used to award the project non-competitively. Numerous ADP vendors have been alerted to the potential award and have made numerous inquiries regarding submission of bids or proposals for the contract. Congressional inquiries have also been received.

Please examine the attached proposal in regard to the authorities contained in the Agricultural Marketing Act of 1946, 7 U.S.C. 1621 -1627 and the guidance contained in the Federal Grant and Cooperative Agreement Act, and give us your opinion as to what type of relationship - assistance or procurement - is most appropriate.

Response to Request for Legal Opinion Regarding Federal Assistance Versus Procurement

1 6 MAR 1988

TO: L. P. Massaro
Deputy Administrator, Management
Agricultural Marketing Service

FROM: Kenneth E. Cohen
Assistant General Counsel
Research and Operations Division

SUBJECT: Request for Legal Opinion Regarding Federal Assistance versus Procurement

This is in response to your memorandum of March 3, 1988, in which you request a legal opinion concerning the most appropriate instrument for use in documenting an arrangement between the Agricultural Marketing Service (AMS) and a non-Federal entity for the development of a computerized data base for market news data. For the reasons set forth below, it is my opinion that a contract is the appropriate instrument for use.

You advise that AMS administers a market news program under the provisions of section 203(g) of the Agricultural Marketing Act of 1946 (7 U.S.C. 1622(g)), which provides:

> The Secretary of Agriculture is directed and authorized:
>
> * * * * *
>
> g) To collect and disseminate marketing information, including adequate outlook information on a market-area basis, for the purpose of anticipating and meeting consumer requirements, aiding in the maintenance of farm income, and bringing about a balance between production and utilization of agricultural products.

The dissemination of information under this program currently is carried out through a variety of means, including radio, television, newspaper, tape recorded messages, teletype, and printed and mailed reports. AMS desires to expand or upgrade its methods of dissemination by developing a computerized reporting system. For that reason, AMS and the University of Florida entered into a cooperative agreement on September 18, 1986.

According to the terms of the agreement, the purpose of the agreement was to conduct a "study to aid in the development of a more efficient and complete USDA market reporting system." The study was divided into two phases. These included analyzing the current system and determining alternative systems. AMS provided $35,000 under the agreement, as amended, for the cooperator's costs of conducting the study.

The study, which was conducted under the guidance of principal investigator John J. VanSickle, resulted in the identification of a data base system that would encompass all AMS market news data in the same format, and that would be accessible by computer by all AMS market news offices, as well as certain public and industry users. Consequently, AMS decided to pursue the matter.

In November 1987, the University of Florida submitted a proposal to AMS for funding for a project, entitled "Development of a Computer Market News Information System." The proposal referred to the earlier study and noted that the results "determined a need for developing a computerized market information system within AMS." The general objectives of the proposal were identified as being the improvement of the services offered to market news users by AMS and the improvement of the operational efficiency of AMS market news.

The specific objectives were identified as the development of a reporting format, the development of a computerized data base, and the implementation of a computerized data base system. The projected length of the project was three years and the projected total cost to AMS was estimated to be approximately $492,200. The University proposed that it would absorb costs in the amount of $315,450 in the form of unreimbursed overhead and the salary of the project coordinator. You advise that the proposal contemplated that the system would be located at, and would be operated by, the University of Florida.

By letter, dated December 24, 1987, Bruce E. Lederer, Marketing Specialist, AMS, notified John VanSickle, the proposed principal investigator for the project, that "USDA plans a cooperative agreement with the University of Florida to obtain the services of you and Tom Stevens to participate in the development of a data base for our Market News network."

Subsequently, AMS determined that the system should be located at AMS facilities in Washington and that it should be operated by AMS. These decisions were based on concerns about control and data security.

In the light of the foregoing, you now request my opinion as to whether a transaction providing for the implementation of the system would constitute an assistance relationship or whether it would constitute an acquisition relationship.

The Federal Grant and Cooperative Agreement Act of 1977, 31 U.S.C. 6301-6308, requires Federal agencies to examine their transactions and to distinguish Federal assistance relationships from Federal procurement relationships. Each transaction must be analyzed to determine its principal purpose. Under the criteria set out in the Act, a procurement relationship exists, and a contract must be used, when the principal purpose of a transaction between a Federal agency and a State, a local government, or other recipient is to acquire property or services for the direct benefit or use of the Federal government. 31 U.S.C. 6303.

On the other hand, an assistance relationship exists, and a grant or cooperative agreement must be used, when the principal purpose of the transaction is to transfer a thing of value to the recipient to carry out a public purpose of support or stimulation authorized by a law of the United States. 31 U.S.C. 6304 and 6305. A cooperative agreement instead of a grant should be used to document an assistance relationship when substantial involvement is expected between the agency and the recipient when carrying out the contemplated activity.

According to the Comptroller General, the "key question is this: Is the principal purpose to serve the immediate needs of the federal government, or is it to provide assistance to a non-federal entity in serving a public purpose?" _The Honorable Jack Brooks, Chairman, Legislation and National Security Subcommittee, Committee on Government Operations, House of Representatives_, Comptroller General Decision B-227084.5, October 15, 1987, 67 Comp. Gen. ___, ___. _See Council on Environmental Quality and Office of Environmental Quality -- Cooperative Agreement with National Academy of Sciences_, Comptroller General Decision B-218816, June 2, 1986, 65 Comp. Gen. ____, ____. _Civic Action Institute_, 61 Comp. Gen. 637 (1982). If the principal purpose is the provision of assistance, there must be some affirmative legislative authorization giving an agency the power to donate Government funds to assist non-Government entities to accomplish their own purposes. _Council on Environmental Quality, supra_.

In the present situation, AMS administers a market news program, consisting of the dissemination of marketing information. It conducts the program through a variety of means, but it wants to expand or update its methods. To that end, it intends to utilize the services of a non-Federal party to develop a data base for the AMS Market News network and to implement a computerized system that will be operated by AMS. Clearly, the services of the non-Federal party are being sought for the direct benefit or use of the Federal government in the sense that AMS will use the services to carry out its program responsibility of disseminating marketing information. Assuming that the provisions of section 203 of the Agricultural Marketing Act of 1946 (7 U.S.C. 1622) authorize AMS to provide or donate Federal funds to a non-Federal recipient to support or stimulate the recipient's activities in disseminating marketing news, there appears to be no intention of entering into such a transaction at the present time.

Accordingly, it is my opinion that the proposed transaction would fall into the category of a procurement relationship and that a procurement contract would be the appropriate instrument for use in documenting the transaction. The award and administration of the contract, of course, would be subject to the Federal acquisition laws and regulations.

LEGAL OBLIGATION TO COOPERATIVE AGREEMENT

Senator CHILES. Mr. Chairman, I appreciate the opportunity to ask these questions.

Have you asked your legal counsel whether you have another legal obligation as set forth by the December letter?

Mr. BOYLE. I have not raised that question with the legal counsel. I have raised it with the University of Florida, in conversations with them, and the exchange of correspondence between the agency and the university subsequent to that December letter clearly indicates that the university knew that the final decision on entering into the cooperative agreement had not been made. Indeed, the authority to enter into that cooperative agreement is one that is reserved at levels much higher within the agency.

Senator CHILES. Well, you know, you all are a big, powerful agency, and you have agreements that come today and tomorrow and I am sure you can always say, "Fellows, you know, you are not going to take this." But still, you want to operate your agency in a way that complies. You say it is regrettable the letter was sent. If that letter triggers some legal obligations, I would hope that the Department would be ready to honor those obligations regardless of whether you can get the University of Florida to let you off the hook or not.

Mr. BOYLE. We will surely honor our legal obligations.

Senator CHILES. Thank you. I want to pursue it further, Mr. Chairman. I would like to have copies of the correspondence that you have.

SUBMITTED QUESTIONS

Senator BURDICK. This ends today's hearing. Additional questions will be submitted to you from the following Senators: Senators Burdick, Leahy, Johnston, Cochran, Kasten, Hatfield, McClure, and Harkin.

[The following questions were not asked at the hearing but were submitted for response for the record:]

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

QUESTIONS SUBMITTED BY SENATOR BURDICK

LEAFY SPURGE

Question: We provided $1.5 million for a leafy spurge pilot project in Fiscal Year 1988. What progress have you made on this project to date?

Answer: The main emphasis at this time is on the establishment of biological control agents effective against leafy spurge. Toward that end, APHIS is establishing agreements with North Dakota State University (NDSU) and other State and Federal cooperators to conduct field evaluation of new biological agents. APHIS has an agreement with the Agricultural Research Service (ARS) to work with the Commonwealth Institute of Biological Control (CIBC) to do foreign exploration for new biological control organisms against leafy spurge. Four such insect species are now available for further field release. The Department recently finalized plans with scientists in Yugoslavia to ship large numbers of these insects to the United States for field release and to begin laboratory rearing cultures.

APHIS and ARS will screen an estimated 6 to 10 additional insects and plant pathogens from world-wide sources for secondary pests and diseases. Since there are endangered plant species that could be threatened by these organisms, APHIS plans to supply native plants from the endangered species list to the CIBC laboratory in Delmont, Switzerland, for the initial screening. This will greatly expedite the arrival of potential biocontrol agents to the U.S. for release against leafy spurge. Part of the ARS quarantine facility in Albany, California, has been reactivated to aid in this screening. Equipment and personnel have also been increased at the biocontrol laboratories in Mission, Texas, and Bozeman, Montana, to complement the work done in California. Additionally, APHIS, ARS, and NDSU will work cooperatively to begin mass production of those biocontrol agents cleared for release in the United States.

The ground work has also begun for the economic evaluation of leafy spurge and its control options. Funding has also been put into aerial mapping of leafy spurge infestations.

Question: The limited integrated pest management program for leafy spurge is at least a five-year program to explore long-term environmental acceptable solutions to controlling leafy spurge. What would the costs associated with this program be in years 2-5?

Answer: We anticipate that the costs will be about $1 million per year.

Question: As you know, the leafy spurge costs considerable amounts of money to the agricultural industry and the Nation. In Montana, an estimated $1.4 million is lost from forage production, and $2.5 million for chemical control. Losses in North Dakota are estimated to be $7 million through reduced forage and beef production. What are the estimated losses on a National level by State?

Answer: The estimated losses on a national level are not yet available although some information has been received from the five States of Idaho, Montana, Nebraska, North Dakota, and Wyoming. This data indicates that the costs of herbicides and their application are about $35 million. However, these estimates may be too low. Damages to the native wildlife population due to leafy spurge infestation reducing the available food sources is not yet known. An economic evaluation is being conducted as part of the Integrated Pest Management project and this information should be available by the end of calendar year 1988.

BOLL WEEVIL

Question: How have you allocated the $12,079,000 for Fiscal Year 1988 among the High Plains control program and the Southeast and Southwest eradication programs?

Answer: In Fiscal Year 1988, the boll weevil availability of $12,079,000 was allocated as follows:

High Plains Control	$684,000
Southeast Eradication	8,881,000
Southwest Eradication	2,514,000
Total Available	$12,079,000

Question: The budget proposes to cutback almost all of the funding for these programs. How can you expect cooperators to pay the entire cost of the eradication programs, when it has not been done under the eradication programs to date?

Answer: Recent studies have clearly defined the economic benefits to growers following weevil eradication. These studies indicate that it would be to the growers' advantage to continue the eradication program, even without Federal assistance. In a relatively short period of time growers will recoup their eradication costs through increased cotton yields, increased cotton quality, and reduced pesticide costs.

In the Southeast the original program goal has been achieved. The program eradicated the boll weevil to the buffer zone on the South Carolina-Georgia border. APHIS has contributed much of the equipment, technology, and expertise necessary to successfully complete the Southeast program. The cooperators should now be able to assume responsibility for completing the eradication effort.

In the Southwest the program will have made substantial progress in eliminating boll weevil from the eradication area by the end of FY 1988. Program cooperators now have the necessary equipment, technology, and expertise to complete the eradication program and maintain an adequate buffer zone and monitor eradication areas against reinfestation.

Question: What would be the cost of continuing the eradication programs in the Southeast and Southwest and the control program in the High Plains?

Answer: For Fiscal Year 1989, the total funding needed to continue the current level of APHIS participation in the boll weevil programs would be approximately $9,677,000. Based on current cotton acreages these funds would be divided among the following programs:

High Plains Control	$722,000
Southeast Eradication	5,785,000
Southwest Eradication	3,170,000
Total Available	$9,677,000

MEDITERRANEAN FRUIT FLY

Question: The budget proposal does not request an increase for the Mediterranean fruit fly project. What is the status of the CAPMED project?

Answer: APHIS continues to support the Food and Agriculture Organization of the United Nations (FAO), which has taken the lead role in coordinating this project. A project document covering the initial, 2-year preparatory phase of the CAPMED project was prepared in April 1987. Major activities under the preparatory phase would include collection of baseline technical data, training of field personnel, establishment of a regional quarantine system, construction of a sterile fly rearing facility in Honduras, and partial construction of two other sterile fly rearing facilities. The estimated cost of the preparatory phase is $31 million and it is part of the overall 8-year $350 million CAPMED proposal.

In addition, discussions are continuing with the U.S. Agency for International Development (USAID), FAO, and other organizations in regard to environmental, economic, and funding aspects of the project.

Question: Has any work been done on this proposal?

Answer: As directed by the Congress, APHIS has continued to support the CAPMED initiative. The Agency has been active in discussions with international organizations including FAO, the U.S. Agency for International Development, the countries of Central America and Panama, and potential donor countries and organizations, on all aspects of this proposed project. Preliminary planning activities have or are currently addressing environmental, economic, technical, social, and funding aspects of CAPMED. During FY 1987, a Medfly distribution survey for El Salvador, Honduras, Nicaragua, Costa Rica, and Panama was completed by FAO, and a project document covering the initial phase of CAPMED was produced.

Question: Have environmental assessments for the CAPMED project been conducted?

Answer: An environmental assessment for the proposed CAPMED project has not yet been carried out. APHIS is working closely with USAID to develop an acceptable approach for assessing the environmental impact of the project.

Question: Does the budget request contemplate moving the border further south in Guatemala, or is the proposal simply to maintain the current barrier?

Answer: The goal of the Medfly program in Guatemala, known as the Moscamed program, is to eradicate the Medfly from that country. To accomplish this, the barrier zone must be moved progressively southward from its current location about 50 kilometers inside Guatemala from the Mexico border. An environmental assessment is currently being carried out for the Moscamed program and, in accordance with the direction of the Congress, the barrier zone is not being expanded until this assessment has been completed and reviewed by the appropriate Congressional committees. The requested funding contemplates southward movement of the barrier after this review.

Question: What is the cost to APHIS of maintaining the Medfly barrier at the Mexico-Guatemala border?

Answer: The annual cost to APHIS of maintaining the Medfly barrier effort is approximately $6.6 million. This does not include domestic surveillance activities in citrus producing regions of the United States, methods development activities, and program direction and support costs.

AFRICANIZED HONEY BEE

Question: The budget contains a request of $1,950,000 for the Africanized honey bee program. What is the goal of this program?

Answer: The goal of the Africanized Honey Bee (AHB) program is to control the northward migration of the AHB and prevent its establishment in the United States. USDA is cooperating with Mexico to maintain a "bee regulated zone" near the Isthmus of Tehuantepec in Mexico.

Under the program, which is jointly funded, Mexico is responsible for performing educational and training activities, establishing and maintaining a taxonomic laboratory, enforcing quarantine regulations, and conducting field activities. USDA provides technical equipment and assistance, and coordinates research activities.

Question: What guarantees do we have that the program will keep the bees out of the United States?

Answer: Because the control program was initiated only 6 month ago, it is still too early to assess the effectiveness of the overall program. However, APHIS believes that the program has a high probability of successfully preventing the northward migration of the AHB for at least 5 to 10 years. At a minimum, the zone would provide time for researchers to develop new management technologies, genetic variations, and other methodologies that would minimize the impact of the AHB should it ever reach the United States. The bee regulated zone also protects nearly 50 percent of the beekeeping industry in Mexico, and allows that country to concentrate research and extension activities in the infested areas south of the Isthmus of Tehuantepec in Mexico.

Question: What are the long-term costs -- for the next 10 years -- of carrying out this program?

Answer: We estimate that the overall program will cost \$3.9 million in FY 1989, and that approximately \$3.6 million will be required annually for FY 1990 and beyond. These cost estimates include related Agricultural Research Service (ARS) activities.

Under the cooperative agreement with Mexico, the USDA and the Government of Mexico jointly fund the program. Program costs are shared equally for all activities in the "bee regulated zone." Either party may contribute other funds or equipment for joint activities outside of the bee regulated zone.

Question: What direction will the program take over that period of time?

Answer: Under the program, APHIS and the Government of Mexico will maintain a "bee regulated zone" using a number of complementary AHB control strategies such as pheromone baited traps, certification of managed European honey bee colonies, and use of hives with simulated queenlessness to attract and kill AHB swarms.

Question: A recent article in the New York Times, suggested that these bees would pose a minor public health threat but a potentially significant threat to agriculture.

In your view, what is the magnitude of the threat posed by the migration of the Africanized honey bee to the United States -- both in terms of public health and agricultural losses?

Answer: We believe that the AHB would have serious negative impacts on the U.S. beekeeping industry, the production of crops dependent upon bee pollination, and honey production. Crops which directly benefit from European honey bee pollination are valued at approximately \$20 billion per year. The European honey bee also produces honey which is valued at \$200 million annually, 40 percent of which is produced from hives managed by 250,000 amateur beekeepers. It is estimated that honey production would initially drop by approximately 80 percent or \$120 million. Crop pollination would be reduced by more than 5 percent or \$1.2 billion per year. A decline in the number of amateur beekeepers could also be expected.

From a public health standpoint, APHIS believes that the potential for increased stinging incidents exists in regions of the United States where the AHB could become established. However, we are not in a position to assess the seriousness of the effect on public health.

VARROA MITE

Question: The Varroa mite has received considerable attention in the news recently because it has been found in this country in at least 11 States. If left unchecked, the mite invasion could cause serious economic damage to the honey industry and the many fruit and vegetable crops that rely on bees for pollination. What is your assessment of the magnitude of this problem?

Answer: The Varroa mite is considered to be the worst pest affecting the domesticated honey bee. The mite could cause serious economic damage if allowed to become established in the United States. We are currently beginning a national detection survey in cooperation with the States to determine the magnitude of the Varroa mite infestation.

Question: How many States is it in and what will the consequences be?

Answer: The Varroa mite has been detected in 12 States: Florida, Illinois, Nebraska, New York, Maine, Michigan, Mississippi, Ohio, Pennsylvania, South Dakota, Wisconsin, and Washington. The States, the honey bee industry, and the Federal Government are working together to minimize consequences of the Varroa mite infestations on agriculture. So far, five of these States have depopulated all of the honey bee colonies known to be infested within their borders. The Agricultural Research Service has developed and recommended a chemical treatment to control Varroa mite. APHIS is establishing a quarantine to restrict the movement of honey bees and equipment from infested States. We will continue to work with the honey bee industry and affected State governments to surmount the Varroa mite infestations quickly and avoid excessive losses.

Question: Have you developed a Federal quarantine plan for dealing with this problem? If so, please describe your Agency's proposed plan.

Answer: We are developing a Federal quarantine plan for Varroa mite which we hope will be in effect by late March. The quarantine will cover only those States known to be infested with Varroa mite and will restrict the interstate movement of honey bees and associated equipment that could spread the mite. The regulations will be primarily enforced by the States with oversight by APHIS.

Question: Have you requested funds to carry out such a plan, either as a line item or using contingency funds?

Answer: We are examining various funding sources to cover the national detection survey for Varroa mite. The Federal share of the cost of promulgating interstate movement regulations and assisting the States with enforcement efforts will be absorbed within available appropriated funds.

Question: Do you agree that a Federal quarantine plan to deal with this dangerous pest is necessary and of high priority?

Answer: We do agree that a Federal quarantine plan is necessary to deal with the Varroa mite and we are pursuing that goal aggressively. Regulations should be in place by late March.

Question: What type of resources would be necessary to carry out such a program?

Answer: We estimate the cost of carrying out the Varroa mite quarantine will be between $150-$300 thousand. Funding will include State cooperative agreements and personnel costs. Treatment will be provided by beekeepers and will be supervised by APHIS personnel. The cost of the Federal quarantine will be contingent upon the results of the national detection survey. Costs could increase if more infested States are found and placed under quarantine. Likewise, costs could decrease if the survey indicates that all Varroa mite infestations have been eliminated within a State. At that time, the Federal quarantine in that State could be lifted and interstate movement of honey bees and equipment could continue.

GRASSHOPPER

Question: I am particularly concerned about the grasshopper program being carried out by APHIS as it is contained in the Fiscal Year 1989 request. You propose reducing the funds available from $10.7 million to $3.3 million. You claim to realize the extent of damage that grasshoppers cause and the loss inflicted upon agriculture and, yet, you continually propose to underfund the program. Your budget states that no funds will be provided for control activities in Fiscal Year 1989 and that the Integrated Pest Management program will be performed at a reduced level. The Integrated Pest Management program proposal is designed to come up with new methods for controlling the grasshopper, including the use of biocontrol, so that we can finally get this problem in hand; however, until we come up with those methods, we cannot eliminate our control work. What are your projections at this time for the need for grasshopper control for fiscal year 1988?

Answer: Estimates of grasshopper infestations for a given year are subject to wide variation due to the influence of spring weather conditions. APHIS tentatively estimates that in FY 1988 approximately 2.8 million acres will require treatment in 17 Western States.

Question: Do you have any reason to expect that there would be no control needed in Fiscal Year 1989?

Answer: There will likely be a need for some control work in FY 1989. Any infestations on Federal lands will be handled through the reimbursement mechanism with the Department of the Interior or with funds carried over in the no-year control fund. Further, the intensive control measures of recent years have resulted in large reductions in grasshopper populations. This should reduce the level of control needed and will enable States and ranchers to assume a greater share of the costs that do arise.

Question: We are now in the second year of the IPM project being carried out in Idaho and North Dakota. What progress can you report to date from this project?

Answer: Integrated Pest Management project field activities were initiated in the spring of 1987 to coincide with the spring grasshopper hatch. Activities included testing improved survey methodologies and data analysis techniques to better predict the need for and timing of treatment; development of methodologies for integrating biological and chemical control methods with range management practices; and assessing environmental impacts.

The project was only carried out at one of the two demonstration sites -- McKenzie County, North Dakota -- due to low grasshopper populations at the Idaho demonstration site located in the Bureau of Land Management's Boise, Idaho, district.

Question: What level of funding does your budget request for Fiscal Year 1989 for the IPM project?

Answer: The IPM project would have a funding level of approximately $2.1 million in FY 1989.

PSEUDORABIES

Question: How is APHIS using the $2.4 million appropriated for pseudorabies control in Fiscal Year 1988?

Answer: During FY 1988 pseudorabies activities will reflect a transition from the five-State pilot project to cleanup programs in additional States following the principles of the approved Pseudorabies Uniform Methods and Rules (UM&R). Specific activities we plan to undertake include the following:

-- maintain progress achieved in pseudorabies control efforts undertaken through cooperative agreements in pilot project areas, and expand efforts to additional qualifying States as resources permit;

-- continue to evaluate new vaccines and tests designed to distinguish between serologic response to vaccination and pseudorabies field virus infection. Considerable interaction with the Pseudorabies Technical Advisory Committee is anticipated;

- -- continue to work with the United States Animal Health Association and the swine industry to finalize a National Pseudorabies Uniform Methods and Rules (UM&R);
- -- amend Title 9, Code of Federal Regulations, as appropriate, to support the final United States Animal Health Association and APHIS approved Pseudorabies UM&R;
- -- provide support for studies to identify procedures for cleanup of large herds and feral (wild) swine populations;
- -- select candidates for graduate studies in swine diseases, in addition to two trainees selected previously;
- -- conduct one training program for personnel who will be involved in pseudorabies field activities;
- -- evaluate and encourage the development of swine identification systems which will effectively support surveillance based on serum collection at slaughter establishments;
- -- complete development and begin implementation of a national pseudorabies reporting system.

Question: How many States are involved in the program?

Answer: Nineteen States are currently receiving Federal funds in support of local pseudorabies control/eradication programs.

Question: What are the results expected this year?

Answer: A national reporting system enabling monitoring and evaluation of State programs will become operable. Also, within the cooperating States, increased control and eradication activities such as improved surveillance, together with more rapid diagnosis and quarantine of infected premises and initiation of herd cleanup plans, are expected to initially result in the identification of increased numbers of infected herds. After this initial identification period, the incidence of reports on infected herds is expected to decrease as control and eradication activities are implemented.

Question: In order to maintain and carry out the program on a national level, what would the funding requirements be for Fiscal Year 1989 and the next five years?

Answer: APHIS is proposing that the States and industry fund the program. The National Pork Producers Council estimates the total funding requirements for a nationwide program in Fiscal Years 1989 through 1994 to be as follows:

Fiscal Years:	1989	1990	1991	1992	1993	1994
($ millions)	8.0	14.6	21.8	27.3	36.3	27.3

Question: What control methods are being used?

Answer: The control methods being used are as follows:

-- surveillance of swine populations, especially sows and boars at markets, slaughter establishments, and on farms;
-- cleanup of infected herds by depopulation, segregation, and/or disinfection of premises;
-- enforcement of quarantines to restrict movement of infected swine, thereby protecting noninfected premises;
-- enforcement of laws and regulations designed to prevent the movement of infected animals;
-- conduct of a public information campaign to promote awareness of the disease and effective methods of control.

REDIRECTION OF FUNDS

Question: Please provide for the Committee all of the funds redirected in 1986 and 1987, including the amount redirected, the programs from which the money came, and the programs to which the money was directed.

Answer: The FY 1986 redirections were as follows:

		Amount Redirected
Plant Protection and Quarantine		
Agricultural quarantine inspection		+$3,300,000
Imported fire ant		-2,225,000
Miscellaneous plant pests		-475,000
Pink bollworm		-600,000
		0
Veterinary Services		
Animal health compliance and enforcement		+$1,000,000
Brucellosis		-1,950,000
Miscellaneous animal diseases		-500,000
Pseudorabies		-550,000
Animal welfare		+1,200,000
	Subtotal	-800,000
Animal Damage Control	Subtotal	+800,000
	Total	$ 0

The FY 1987 redirections were as follows:

		Amount Redirected
Plant Protection and Quarantine		
Agricultural quarantine inspection		+$2,500,000
Imported fire ant		-2,392,000
Mediterranean fruit fly		+607,000
Miscellaneous plant pests		-240,000
Pink bollworm		-475,000
	Subtotal	$ 0

Veterinary Services	
Animal health compliance and enforcement	+$1,200,000
Brucellosis	-2,788,000
Foot-and-mouth disease	+488,000
Veterinary biologics	-500,000
Veterinary diagnostics	+1,600,000
Subtotal	$ 0
Total	$ 0

Question: Do you anticipate any redirections for Fiscal Year 1988?

Answer: Yes, we do anticipate making some redirections for fiscal year 1988.

Question: If so, what are they?

Answer: We have not yet determined specific needs or sources for redirections.

ANIMAL DAMAGE CONTROL

Question: For 1988, Congress appropriated $24,419,000 for the Animal Damage Control program. This figure was derived by taking the base program and adding to that the Congressional directives contained in the Continuing Resolution. The base program figure that was used was provided by your Agency. Now, it has come to my attention that you have redirected money from the Predator Control program, predominantly in the Western States, to other research programs. Some people are saying that the decrease in the Predator Control program comes as a result of funding the Congressional Directives. I hope that your Agency is not perpetuating that myth. Are you?

Answer: APHIS appreciates the support of the Congress and very definitely acknowledges that Congress has provided full funding for all Congressional directives. The predator control program in the Western States received less funds in FY 1988 than in FY 1987 because the Agency made an internal decision to devote additional funds to a number of other program areas. There is a need in the other program areas to correct certain deficiencies that threaten USDA's ability to operate the Animal Damage Control program.

Question: Given the fact that you only requested a little over $12 million for Fiscal Year 1988, and Congress provided over twice that amount,why are you taking funds out of the predator control program?

Answer: Reductions in the level of traditional predator control activities were necessary so that APHIS could meet the program's most critical needs. Principal among these areas are upgrading the Denver Wildlife Research Center; creating a pool of supervisory personnel; and purchasing new field equipment and vehicles. Among the Federal responsibilities in animal damage control are development and maintenance of pesticide registrations and the provision of practical technology to the nation's agricultural producers. In order to fulfill this responsibility, improvements in the Denver facility are critical. To begin correcting existing deficiencies, we are implementing a modernization plan which includes purchasing equipment, renovating the structure, and hiring or reassigning technical personnel to meet pesticide registration and research and development needs. The Agency has also taken steps to ensure that a pool of qualified, highly trained supervisors be available in the future. Animal Damage Control field operations require the use of specialized equipment and supplies such as vehicles, traps, and snares. Inventories have not been restocked in the last few years and aging vehicles are in frequent need of repair. We have begun to improve these inventories. APHIS is carefully reviewing the Animal Damage Control funding situation so as to minimize any adverse impact on program operations. We believe our approach is forward-looking and necessary for the long-term effectiveness of the program.

Question: If you saw a need for increased research funds, why didn't you request them in your budget for Fiscal Year 1988?

Answer: The program had just recently been transferred from the Fish and Wildlife Service when we developed our Fiscal Year 1988 budget. After a careful analysis of our research program, and an audit by the Environmental Protection Agency (EPA), it became apparent that steps had to be taken to bring the program into compliance with the Good Laboratory Practices of EPA's and with the Animal Welfare Act.

Question: It seems to me that the Agency should not be redirecting funds that Congress intended to be spent on a continuing levels as in past years.

What can you do to bring the predator control program back up to the funding level in order to maintain the Fiscal Year 1987 program?

Answer: In FY 1988, APHIS must begin upgrading the Denver Wildlife Research Center and purchasing new field equipment and vehicles to support field operations. Failure to meet these high priority needs would cause the loss of the basic tools necessary for predator control. Past neglect of these needs has compounded their effect and they must be addressed so that the program is conducted on a sound basis, both technically and legally. Therefore, the Agency will not be able to maintain the FY 1987 funding level for the predator control program while funds are used for these needs.

Question: For Fiscal Years 1987, 1988, and under Fiscal Year 1989 budget, please provide the following information:

The amount of money spent on blackbird control;

Answer: In FY 1987, we spent $484,290 on blackbird programs in the Eastern Region and $754,213 in the Western Region. In FY 1988, we plan to spend approximately $579,000 in the Eastern Region and approximately $638,000 in the Western Region. Funding in FY 1989 should remain at about the same level.

Question: The amount of money spent on blackbird research;

Answer: Animal Damage Control spent $1.2 million on blackbird research in Fiscal Year 1987, and plans to spend approximately $1.4 million in Fiscal Year 1988 and approximately the same amount in Fiscal Year 1989. All research work is conducted through our Denver Wildlife Research Center and cooperators.

Question: The amount of money spent for predator control, by type of predator;

Answer: In FY 1987, we spent $332,950 on predator control in the Eastern Region and $10,541,000 in the Western Region. In FY 1988, we plan to spend approximately $355,000 in the Eastern Region and $10,069,000 in the Western Region for this activity. In FY 1989, predator control operations should remain at approximately the current level, assuming cooperators cover the cost of control programs on non-Federal land. We do not maintain predator control funding information by type of predator.

Question: The amount of money spent on other types of research, indicating the specific research involved;

Answer: In addition to blackbird research, the Denver Wildlife Research Center conducts studies on animal damage problems caused by other species of birds, predators, and non-predatory mammals. These activities include research associated with: mountain beaver damage in the Pacific Northwest forests; deer damage in the Northeast; cormorant damage to aquaculture and other problems in the Delta States; rat damage control in Hawaii; and taste aversion research. We also develop data which support the continued maintenance of currently registered pesticides for controlling predator damage to livestock and rodent damage to a variety of crops. In addition, we are conducting studies aimed at developing new control tools and improving and expanding uses of existing control tools such as repellants, attractants, and toxicants for controlling bird and mammal damage. In Fiscal Year 1987, we spent $3.7 million on these activities. We plan to spend $3.6 million in Fiscal Year 1988, and approximately the same amount in Fiscal Year 1989.

Question: The amount of money spent for each of the congressional directives contained in the House, Senate, and Conference Reports for Fiscal Year 1988. Please break these amounts down for the Eastern and Western regions.

Answer: The information follows:

Directive	Total Amount	Western Region	Eastern Region
Guarding dog programs	$200,000	$155,000	$45,000
Blackbird pilot project in flyway	200,000	200,000	0
High priority equipment	489,000	301,000	188,000
Grackle control in Texas	300,000	300,000	0
Beaver damage in Wisconsin	100,000	0	100,000
Sapline damage in Vermont	40,000	0	40,000
Predator control in Montana	100,000	100,000	0
	$1,429,000	$1,056,000	$373,000

Other Congressionally directed projects are conducted through the Denver Wildlife Research Center and cooperators. They include taste aversion, rat control in Hawaii, grackle/blackbird/starling research, mountain beaver research in Washington State, deer damage research in the northeast, nuisance animal research in the delta states, and upgrading the Denver Wildlife Research Center to comply with Good Laboratory Practices of the Environmental Protection Agency and the Animal Welfare Act. The ADC Environmental Impact Statement will be funded from a headquarters account.

Question: Please also provide an allocation of Animal Damage Control funds for each State for Fiscal Years 1987, 1988, and under the budget of Fiscal Year 1989.

Answer: The information follows:

	FY 1987	FY 1988	FY 1989
Alabama..............	$46,945	$46,000	$38,000
Alaska...............	84,509	45,000	14,000
Arizona..............	436,342	400,000	135,000
Arkansas.............	222,322	229,000	178,000
California...........	1,293,181	1,125,000	340,000
Colorado.............	4,504,277	5,497,000	4,305,000
Connecticut..........	22,237	22,000	18,000
Delaware.............	24,495	24,000	20,000
Florida..............	205,603	203,000	165,000

	FY 1987	FY 1988	FY 1989
Georgia..............	69,817	69,000	56,000
Hawaii...............	66,298	270,000	207,000
Idaho................	1,059,425	1,016,000	597,000
Illinois.............	109,472	108,000	88,000
Indiana..............	140,586	139,000	113,000
Iowa.................	23,963	24,000	20,000
Kansas...............	311,106	300,000	26,000
Kentucky.............	336,530	331,000	270,000
Louisiana............	184,091	192,000	171,000
Maine................	64,046	67,000	52,000
Maryland.............	1,274,205	2,253,000	838,000
Massachusetts........	22,237	22,000	18,000
Michigan.............	85,973	80,000	77,000
Minnesota............	469,314	461,000	326,000
Mississippi..........	96,911	334,000	287,000
Missouri.............	53,169	52,000	42,000
Montana..............	725,450	813,000	198,000
Nebraska.............	234,361	230,000	30,000
Nevada...............	574,950	530,000	426,000
New Hampshire........	55,072	54,000	44,000
New Jersey...........	65,670	65,000	53,000
New Mexico...........	1,020,111	937,000	312,000
New York.............	88,037	87,000	71,000
North Carolina.......	70,701	70,000	65,000
North Dakota.........	477,666	469,000	155,000
Ohio.................	357,927	352,000	288,000
Oklahoma.............	351,112	354,000	249,000
Oregon...............	864,054	850,000	249,000
Pennsylvania.........	129,422	256,000	209,000
Rhode Island.........	18,766	19,000	15,000
South Carolina.......	60,538	62,000	48,000
South Dakota.........	363,145	327,000	20,000
Tennessee............	160,148	161,000	160,000
Texas................	2,214,968	2,035,000	213,000
Utah.................	1,148,371	1,029,000	608,000
Vermont..............	44,102	84,000	68,000
Virginia.............	71,793	75,000	58,000
Washington...........	563,798	579,000	206,000
Washington, DC.......	547,225	555,000	276,000
West Virginia........	65,059	64,000	53,000
Wisconsin............	144,039	241,000	197,000
Wyoming..............	825,824	812,000	328,000
Total	$22,449,363	$24,419,000	$13,000,000

Question: What kind of research is being done that will help Western predator control?

Answer: The current program emphasizes maintenance of pesticide registrations and improvement of existing predator control tools used by animal damage control specialists and ranchers. Substantial effort is devoted to improving the efficiency and utility of the M-44 sodium cyanide ejector, to supplying data required by the Environmental Protection Agency to maintain the Federal registration of the livestock protection collar, and to developing effective baiting techniques control. Field work on multiple stimulus coyote frightening devices has been completed and the Animal Damage Control program has advertised the availability of this technology to potential manufacturers. Additional work is underway to develop improved coyote attractants for use with control devices, to develop test standards and improve designs for coyote snares, and to evaluate the effectiveness of winter aerial hunting in remote mountainous grazing areas for reducing spring and summer coyote predation on sheep.

Question: What is the progress on compound 1080 single dose baits?

Answer: Several actions, including rehabilitation of the Denver Wildlife research Center chemistry laboratories and hiring staff for chemical registration research, are underway to enable studies to proceed that would support registration of 1080 and other toxicants. These studies would involve field trials that would require Experimental Use Permits from the Environmental Protection Agency. In addition, we are examining way to increase the likelihood that coyotes will take 1080 baits and reduce bait-take by birds and other nontarget wildlife. Research indicates that compound 1080 single dose baits have the potential to become an important addition to currently available control tools.

Question: Do you have any estimate of the impact of EPA's endangered species labeling program on ADC?

Answer: The Environmental Protection Agency's proposed regulations would require additional data gathering and analysis to ensure continued registration of control tools which could impact endangered species. USDA is reviewing the proposed rules with the Environmental Protection Agency in hopes of developing a revised proposal which would meet the needs of both USDA and the Environmental Protection Agency.

Question: Have you selected members of your advisory committee? When will they meet?

Answer: We have approved a final list of candidates for the advisory committee which is now pending Departmental approval. Letters of appointment are currently being prepared and we have tried to ensure that the committee members represent the broadest possible cross-section of those groups with an interest in the Animal Damage Control program. The first meeting of this advisory committee will be near the end of the fiscal year.

Question: What is the APHIS position on reintroduction of wolves?

Answer: APHIS does not have a position on the reintroduction of wolves; however, we are concerned that reintroduced wolves may not stay within their anticipated range, and could present a threat to livestock.

Question: Do you have statistics on the amount of damage caused by blackbirds to the various crops? Please provide these statistics to the committee.

Answer: Yes, we do. Nationwide, blackbirds and starlings cause annual losses of approximately $80 million by feeding on agricultural crops and livestock feed. Blackbirds also cause significant economic damage to rice and sunflower crops. In North Dakota alone, blackbirds cause an estimated $6.5 million in damage to that State's sunflower crop.

QUESTION SUBMITTED BY SENATOR HARKIN

PSEUDORABIES

Question: I see that the budget request for Pseudorabies program has been cut from $2.4 million to only $1 million. Could you provide the detailed reasons for this reduction?

Answer: The success of the pilot projects has been instrumental in gaining State and producer enthusiasm for a nationwide eradication program. Because area control is possible and because of the need to reduce Federal spending, we are proposing that the States and industry provide most of the funding for this program.

QUESTIONS SUBMITTED BY SENATOR JOHNSTON

ANIMAL DAMAGE CONTROL

Question: Since the Animal Damage Control program was transferred from the Fish and Wildlife Service to the Department of Agriculture in 1986, funding has steadily declined for the ADC budget in Louisiana. I am seriously concerned about this trend and the impact it is having on efforts I helped get underway in 1979 to strengthen the ADC program designed to mitigate the millions of dollars of damage caused to agriculture, particularly the production of rice and crawfish, in Louisiana as well as to the increased possibility that dangerous collisions between aircraft and wildlife could occur near airports if efforts underway to control this danger are decreased.

In FY 1985, when the ADC program was still under the jurisdiction of the Fish and Wildlife Service, the total budget for Louisiana was $187,000. In FY 1986, the first year of USDA jurisdiction, the Louisiana allocation was initially set at $215,000; however, this amount was never made available and the actual budget was significantly less. In FY 1987, the actual Louisiana allocation was $161,900 because of mid-year budget cuts. And in FY 1988, the Louisiana allocation will actually be just over $144,000 when the $30,000 for training of an employee scheduled to be transferred to a western state is taken into account. Over this four year period, then, the meager budget Louisiana ADC program receives has been reduced by over $40,000, or by over 20 percent. In addition, in FY 1988 about $190,000 originally anticipated for the Eastern Region for purchases of needed equipment has been transferred to the Western Region to make up for deficit spending in the West. Needed equipment and material purchases for the Louisiana program have thus been indefinitely postponed. These are not low priority items. I am told that it is now unclear whether sufficient materials can be purchased to meet farmers needs to enable them to participate in the 1988 program in light of the transfer.

I am seriously concerned about this matter, and to determine what actions I need to take to try and alleviate this serious situation, I would appreciate receiving a written answer to each of the following questions.

The Conference Report on the FY 1988 Agriculture Appropriations chapter of the Continuing Resolution states in part that "The conferees will expect the Department to give increased emphasis to its research on developing environmentally acceptable toxicants or repellants to assist in minimizing the economic loss created by blackbirds, starlings, and grackles in rice, sunflowers and other crops, and included in the total is funding to continue the blackbird pilot project."

There appears to be some confusion about what this blackbird pilot project is. In the 1979 Interior appropriations bill, I offered an amendment to begin a program, to be funded at $300,000 annually, for blackbird mitigation at Stuttgart, Arkansas and Crowley, Louisiana. a. Is this the project the Department considers the conference report language referring to in its interpretation? If it is not, what is the basis for the Department's position?

Answer: The Department considers the ongoing effort to reduce the blackbird damage to sunflowers in North Dakota to be the project referred to in the Conference Report. We have drawn this conclusion from the language of the Fiscal Year 1986 Urgent Supplemental Appropriation Bill, which directed APHIS "to make available an additional $200,000 to the Animal Damage Control Program from within available funds to carry out a pilot program which would expedite the movement of migratory blackbirds throughout the sunflower growing region." We have conducted the project in North Dakota since Fiscal Year 1986, as directed in discussions with Congress.

In addition, APHIS is continuing with its ongoing research program to develop environmentally safe toxicants and repellents for blackbirds, starlings, and grackles that damage rice as well as sunflowers. The major objective of this program is to provide scientific information for the registration of an effective roost toxicant. We have submitted an experimental use permit application to the Environmental Protection Agency to field test the roost toxicant CPT at field sites in the Midsouth as well as northern sunflower growing regions. Although these field tests will not be conducted in rice growing areas, the field tests are aimed at developing a control tool broadly useable for protecting rice, sunflowers, and other crops, and for reducing nuisance roost problems. This winter, we conducted an Arkansas-based field application of toxicant chemical formula which would contain a toxicant during an actual field trial. The purpose was to review methods for evaluating the effectiveness and potential hazard of such a control tool. We are currently testing other control approaches to reduce bird damage to rice. They include testing of a lethal bait in Louisiana which is designed to reduce local bird populations which damage sprouting rice and a nontoxic seed coat repellent for rice.

Question: The Senate Appropriation Committee report accompanying the FY 1988 Agriculture Appropriations bill stipulated that APHIS should maintain full funding for the ADC Louisiana State Office. However, the actual operating budget for FY 1988 in Louisiana is $144,485 when the $30,000 for training of a temporary trainee scheduled to be transferred to a western state is subtracted from the allocation of $174,584. This is considerably less than the FY 1987 allocation of $161,900 and even less when the $190,000 of equipment funds transferred from the Eastern Region to the Western Region is taken into account.

What steps is APHIS now taking to correct this deficiency so that full funding will be on line for the Louisiana program before the fiscal year ends, consistent with the Senate directive?

Answer: We plan to bring the Louisiana State program up to full funding by filling the two positions that were lost through attrition in FY 1987. We will increase the State's allocation to cover the cost of these new employees. One of these employees will go to the District office in Crowley and the other, who was originally intended to be stationed at the same office, will go to MerRouge, Louisiana to establish a new ADC substation at the Louisiana State University Rice Research Station.

Question: Since the transfer of the ADC program from Interior to Agriculture in 1986, I have received a number of reports that the Fish and Wildlife Service is not cooperating fully with ADC biologists who request that limited-kill permits be issued to catfish, crawfish, and baitfish producers who fail to control bird-caused losses at their ponds using conventional nonlethal methods. Apparently, biologists did not have this problem while the overall program was under the jurisdiction of the Department of the Interior.

What do your perceive as the problem, and what have you done to rectify the situation?

Answer: To the best of our knowledge, the Fish and Wildlife Service has issued migratory bird depredation permits to all aquaculture producers in Louisiana who have requested this authority. Any delay in this process may have resulted from an unclear distinction between the roles of APHIS and the FWS when dealing with migratory birds. In response, we held a February 17 meeting with FWS' regional law enforcement personnel to clarify our respective roles. We agreed that APHIS is responsible for providing control recommendations to minimize depredations or other damage caused by migratory birds. We also agreed that it is Fish and Wildlife Service's responsibility to issue limited kill permits and that the Service may solicit from APHIS technical information relating to available damage control techniques and methods. We will continue to work closely with FWS and producers in providing assistance in the resolution of migratory bird depredation problems.

Question: I and other members of the Louisiana delegation have received a number of requests for establishing an ADC office in north Louisiana. Both ADC offices in Louisiana are now located in the southern part of the state.

What is the possibility of opening a substation in Louisiana within existing funds this year? I understand that free space has been offered at the LSU Rice Research Station in MerRouge for this purpose.

Answer: ADC plans to open a substation at the Louisiana State University's Rice Research Station this year. We will reassign one of the positions from the District office in Crowley, Louisiana to the substation for the remainder of the fiscal year.

Question: Can additional funds be found to operate such a station?

Answer: We will cover the cost of the substation from within available funds.

Question: What would be the cost of operating such a station in FY 1989 and can this be accommodated within the proposed budget?

Answer: We estimate that it will cost approximately $65,000 to operate the substation in FY 1989. The cost of the substation would not be covered under our FY 1989 budget.

QUESTIONS SUBMITTED BY SENATOR LEAHY

ANIMAL DAMAGE CONTROL

Question: How does APHIS determine the allocation of Animal Damage Control funds?

Answer: We first allocate funds for projects specifically directed by the Congress. Remaining funds are allocated based on Federal priorities and needs identified by the various ADC organizational units. These units include the State offices which conduct operations, the Denver Wildlife Research Center, the National Technical Support Staff, and the Deputy Administrator's office. Each unit bases its needs estimate upon historical spending patterns, anticipated needs, and requests for assistance from cooperators. We conduct a meeting of all top ADC management officials, representing all of the units, to reach a consensus on the best use of available funds within established priorities.

Question: Is there a regional or State-by-State formula used to distribute funds?

Answer: We do not use a formula to distribute funds because the needs vary among the State offices and other organizational units. All needs are fully considered and we prioritize them to make fund distributions.

Question: In Vermont, the maple industry has a particular problem with rodent damage to maple vacuum lines. What measures is APHIS taking to address this and what can be expected in Fiscal Year 1989?

Answer: APHIS has allocated an additional $40,000 of animal damage control funds for Vermont this year. These funds will support a full-time employee in Vermont to work on the sapline problem and other problems specific to New England. This employee will provide technical assistance and will conduct field tests designed to assist maple producers in the prevention or control of damage by squirrels, chipmunks, and other rodents. We plan to continue this work in Fiscal Year 1989.

QUESTIONS SUBMITTED BY SENATOR COCHRAN

ANIMAL DAMAGE CONTROL (ADC)

Question: The Animal Damage Control program was transferred to USDA from the Department of the Interior in 1986. In my estimation, it has become one of the most popular programs in USDA. Each year, the budget proposes large reductions in the activities of the ADC, and each year, the Subcommittee increases the appropriation for the ADC activities. Would you care to comment on this, Dr. Glosser?

Answer: We share your strong support for the animal damage control program. Under our FY 1989 budget proposal, we could continue program operations at approximately the FY 1988 level, with cooperators reimbursing APHIS for the cost of predator control programs on non-Federal lands. We believe that in these times of budget deficits and funding reductions, this proposal is appropriate, given the fact that States, local governments, and industry are the direct beneficiaries of our control activities. We also plan to continue with the technical assistance and research components of our program.

Question: I'm told that services for the Western predator control program have been reduced. What portion of your efforts are directed toward the predators?

Answer: In FY 1988 we plan to spend approximately $10,424,000 on predator-related activities, including technical assistance and control activities.

Question: How much toward the Western States and how much toward the Eastern States?

Answer: Of this amount, we plan to spend $10,069,000 in the Western Region and $355,000 in the Eastern Region.

Question: Do you have an estimate of the impact of the Environmental Protection Agency's endangered species labeling program on the ADC?

Answer: The Environmental Protection Agency's proposed regulations would require additional data gathering and analysis to ensure continued registration of control tools which could impact endangered species. USDA is reviewing the proposed rules with the Environmental Protection Agency in hopes of developing a revised proposal which meets the needs of both USDA and the Environmental Protection Agency.

Question: Last fall, we were notified of some "critical needs" of the ADC program, i.e., (a) completion of an environmental impact statement; (b) renovation, equipment, and specialized staffing for the Denver Wildlife Research Center; (c) equipment for day-to-day field operations; and (d) a radio system to replace the Fish and Wildlife system. Will you please advise us whether or not these "critical needs" have been met and what action was taken to meet them.

Answer: a. The Environmental Impact Statement has to be technically, procedurally, and legally sufficient to meet the National Environmental Policy Act and USDA's own environmental guidelines. This makes it necessary to contract the work to a professional concern. Accordingly, we have solicited bids from private contractors and expect to sign a contract for the project in the next few months. The project should be completed next year.

b. We are also moving to begin correcting certain deficiencies at the Denver Wildlife Research Center that threaten our ability to develop and maintain pesticide registrations and provide practical technology to the Nation's agricultural producers. As a laboratory facility, the Denver Wildlife Research Center must meet the Good Laboratory Practices standards established by the Environmental Protection Agency in order to have its work accepted as scientifically valid. Also, the Center uses animals for research and should adhere to USDA's Animal Welfare Standards. An assessment of the Center found that it did not comply with either set of regulations.

We have moved to begin bringing the Center into compliance with the Animal Welfare and Good Laboratory Practices standards. For Animal Welfare, we have established an Animal Care Committee in accordance with the Animal Welfare Act regulations. We have also established an Animal Care Section to centralize research activities involving captive animals and their care, and will hire a veterinarian to supervise the new section. We have also allocated funds to begin modernizing our animal holding facilities with final completion in FY 1989. We have closed substandard animal holding facilities until they are upgraded.

For Good Laboratory Practices, the Denver Wildlife Research Center has implemented a program to comply with GLP by upgrading laboratory and data archive facilities, purchasing laboratory equipment, reorganizing Center personnel into more efficient work units, and hiring new personnel where needed. We have also started a quality assurance program with the appointment of a quality assurance officer for the Denver Wildlife Research Center.

c. ADC field operations require the use of specialized equipment and supplies. Field employees use traps, snares, and rifles routinely. Inventories have not been restocked adequately during the past few years. Additionally, there is an inherent need for vehicles in the program, as operations are conducted at various sites throughout a State. The majority of vehicles owned by the program have exceeded the mileage limit for recommended replacement and often need repair. The Agency plans to purchase $489,000 worth of specialized equipment and vehicles in FY 1988. This will begin to meet the most critical needs in this area and assure that ADC can respond adequately to constituent concerns.

d. Over 80 percent of ADC's radios are at least 8 years old, rendering them obsolete. The radios were purchased on an ad hoc basis and do not form a good system. APHIS can continue to use these radios and the Fish and Wildlife frequencies until no later than 1991 in accordance with the transfer agreement between APHIS and the Fish and Wildlife Service. As of now, we have not been able to purchase new radios within Fiscal Year 1988 funding.

PSEUDORABIES

Question: Pork producers will begin the first year of their 10-year plan to control and eradicate pseudorabies beginning in 1989. Financing for the eradication program will come from a unique partnership of Federal and State governments and producers. Pork producers are enthusiastic about this program and are encouraged by efforts in Congress to support them in their effort to eradicate pseudorabies. The program is projected to cost an estimated $57 million over the next ten years. Is the USDA/APHIS prepared to help producers by assuming the leadership role for coordinating this program?

Answer: APHIS has the technical capability to assume a joint leadership role with the National Pork Producers Council should a national eradication program be initiated. However, the budget assumes that such a program could be successfully carried out by the States and industry, with a limited Federal role.

BOLL WEEVIL

Question: Fiscal 1989 will mark the third year of operation for the expanded boll weevil eradication program in Georgia, Alabama, and Florida, and the second year of operation of an eradication program in Arizona. Do you believe the success of the program in North and South Carolina can be achieved in these programs?

Answer: Yes, we do. Although success cannot be guaranteed, these programs are employing technologies and procedures that have been successful in adjoining areas. With favorable climate and adequate resources, both of these programs should succeed.

Question: Is APHIS receiving appropriate support from producers and State agencies in the expanded program?

Answer: Yes, we are. In the Southwest program, the Arizona Commission of Agriculture and Horticulture is providing a project co-manager and other support personnel. The growers have contributed 70 percent of program costs, and the Arizona Cotton Growers Association has endorsed a plan to include the entire state in the eradication program. The growers in the expanded area have voted for a $5 per bale assessment to cover their share of the program.

In the Southeast expansion program, growers in the individual States have passed referenda to participate in a 4-year eradication program. The growers have agreed to contribute $10 per acre for the first year, $35 per acre the second and third years, and $25 per acre the fourth year. The States have agreed to pay a portion of the growers' contribution, facilitate the certification of pesticide applicators, provide regulatory support, and ensure compliance, including grower contributions.

Question: Appropriated funds have been provided to augment producer assessments in order to operate an effective boll weevil eradication program. What are the appropriated funds used for?

Answer: During the first year of the program, appropriated funds are applied to all categories of program expenses. This includes purchasing capitalized equipment such as vehicles, high-clearance spray equipment, and radio communication equipment. Funds are also used for salaries and travel expenses, chemical and application costs, rents and utilities, and trapping supplies.

During the remainder of the program, Federal funds are generally used only for APHIS salary and travel expenses, and for rents and utilities. Increased cooperator contributions then offset the significant expenses APHIS incurred during the first year of the program.

Question: What is the role of APHIS personnel in the programs?

Answer: APHIS personnel provide technical and managerial expertise in operating the program in conjunction with various cooperators.

Question: The APHIS budget request for Fiscal 1989 does not include funding for the Southeastern, High Plains (Texas) or Arizona boll weevil programs. However, operating budgets for these programs were based on a 70-30 producer-Federal cost share arrangement, and the assistance of APHIS personnel is key to the success of the programs. If appropriated funds were made available for fiscal year 1989, what amount would be needed for APHIS to continue its current level of participation in these programs?

Answer: APHIS would require approximately $9,677,000 in appropriated funds to continue its current level of participation in the boll weevil programs for FY 1989. Based on the current cotton acreages, these funds would be directed among the following programs as follows:

High Plains Control	$722,000
Southeast Eradication	5,785,000
Southwest Eradication	3,170,000
	$9,677,000

Question: The fiscal 1988 appropriation provided a single funding level for all boll weevils eradication programs rather than specific levels for each individual program. Has the industry cooperated in APHIS' effort to establish appropriate priorities to conduct all three programs?

Answer: The industry has been very cooperative. The National Cotton Council, The High Plains Cottongrowers, Inc., The Arizona Cotton Growers Association, and The Southeast Boll Weevil Foundation, Inc., have provided advice and guidance for the programs. The appropriation provided for Fiscal Year 1988 was applied to the three programs with the advice of these organizations, who represent the cotton growers.

Question: Are there examples of how other USDA agencies, such as ASCS, could assist in the operation of the programs?

Answer: APHIS has held discussions with ASCS and other agencies on how they could assist with these programs. We will continue to explore how ASCS in conducting its program operations could assist APHIS in performance of its boll weevil programs.

Question: Are there any ASCS regulations which might be adjusted in the eradication areas to reduce the cost of operating or participating in the program?

Answer: In our discussions with ASCS, APHIS and ASCS have been looking at ASCS regulations to see if they could be adjusted to the needs of the boll weevil program without disrupting the mission of ASCS. To date, we have not identified any regulations which we could agree to change. We will continue these discussions throughout the life of the program.

PINK BOLLWORM

Question: The Fiscal Year 1988 appropriation for pink bollworm was a reduction from previous levels and includes specific funding levels for five separate activities; has the reduction in appropriated funds inhibited the success of the program?

Answer: The pink bollworm program should continue to be successful at the current funding level. The Fiscal Year 1988 appropriation is only 2 percent less than actual Fiscal Year 1987 program spending, so the effect on program activities has been minor. While funding has increased at the sterile moth rearing facility, survey activities in Louisiana and Arkansas were reduced slightly. However, this should not inhibit the success of the program.

Question: Please provide information concerning the operation of the program.

Answer: The purpose of the cooperative pink bollworm program is to prevent the pest from spreading to non-infested areas. Primary operations are quarantine enforcement, trapping, methods development, and the cooperative sterile moth rearing project. The program uses a variety of methods to carry out these operations. Program methods include chemical control, which is the primary technique used by growers. Other control techniques used by the growers are pheromone sex lure traps, release of sterile moths, and cultural practices such as crop rotation and alternative planting dates. The Federal program conducts field trials that utilize the pheromone sex lure traps and sterile moth release techniques. The sterile moth release program began in 1968 to prevent the impending spread of native moths to the San Joaquin Valley of California from the heavily infested areas further south. This program is also a cooperative effort to which California contributes 85 percent of the funds. It has successfully prevented the pink bollworm from becoming established throughout the Valley.

ANIMAL WELFARE

Question: What will be the workload impact on the animal welfare program to implement the 1985 amendments to the Animal Welfare Act?

Answer: Inspections on the average will require approximately one-half hour longer. The additional time will be required for oversight of the facility's responsibility to comply with requirements specified in the December 1985 amendment to the Animal Welfare Act.

Question: What additional staffing and funding will be needed to carry out the new animal welfare regulations?

Answer: We do not yet know the full impact of the new regulations since they have not been finalized. Once the final regulations are in place, we will be able to determine what, if any, additional staffing and funding will be needed.

Question: Why were no funds requested in the budget for this purpose?

Answer: We have not yet determined if any additional funding and staffing is necessary because the new regulations have not been finalized. Therefore, we had no sound basis upon which to request funds at the time the FY 1989 budget was developed.

QUESTIONS SUBMITTED BY SENATOR MCCLURE

ANIMAL DAMAGE CONTROL

Question: The Animal Damage Control program is one of the most critical programs for agriculture and the livestock industry in the United States. Historically, this program has focused primarily on predator control in the Western states, and particularly on coyote control, which provides protection for the sheep industry. However, it now appears that funds traditionally available for predator control are being shifted to other animal damage control activities.

In FY 88, Congress appropriated over $24 million for the Animal Damage Control Program, an increase of almost $2 million over the FY 1987 appropriation and almost twice the Administration's FY 88 budget request. Although new Congressional directives were added in the FY 88 Continuing Resolutions, sufficient funds were appropriated to cover these expenses. Nevertheless, FY 88 funds actually allocated to States in the Western Region will be significantly reduced. This is especially confusing in view of the Administration's position concerning funding for the Animal Damage Control program.

This greatly concerns me and leads me to question the use of appropriated funds traditionally available for predator control. I have heard repeatedly from constituents in my State that funds previously available for predator control and other animal damage control operations are no longer being provided. Unless these funds are available, aerial hunting and other vital control programs will be drastically reduced.

Damage from predators is the single greatest cause of economic damage to the sheep industry in the United States with estimated losses of approximately $70 million per year. I do not believe it was ever the intent of Congress to reduce funding for coyote control and other predators in the Western United States but that seems to be what is happening.

What was the APHIS FY 89 budget request to the Department of Agriculture for Animal Damage Control? What did the Department request from OMB?

Answer: The APHIS FY 1989 budget request to the Department of Agriculture for animal damage control was $23,801,000. The Department requested $22,310,000 from OMB.

Question: To give me a better understanding of how ADC funds are being allocated, please provide for the record a state-by-state breakdown of ADC activities and funding, including predator control operations, for FY 87, FY 88, and proposed FY 89. Include in this breakdown, funds dedicated to research.

Answer:

ANIMAL DAMAGE CONTROL
FISCAL YEAR 1987

STATE	PREDATORS	OTHER 1/	RESEARCH	TOTAL
Alabama.......	4,603	42,342		46,945
Alaska........	12,952	71,557		84,509
Arizona.......	349,072	87,270		436,342
Arkansas......		222,322		222,322
California....	1,086,880	206,301		1,293,181
Colorado......	1,086,342	51,130	3,366,805	4,504,277
Connecticut...		22,237		22,237
Delaware......		24,495		24,495
Florida.......		21,643	183,960	205,603
Georgia.......	6,968	62,849		69,817
Hawaii........		66,298		66,298
Idaho.........	769,817	93,808	195,800	1,059,425
Illinois......	10,736	98,736		109,472
Indiana.......	13,787	126,799		140,586
Iowa..........		23,963		23,963
Kansas........	200,500	110,606		311,106
Kentucky......	6,040	85,030	245,460	336,530
Louisiana.....	25,583	158,508		184,091
Maine.........	6,281	57,765		64,046
Maryland......		1,274,205		1,274,205
Massachuset...	3,101	19,136		22,237
Michigan......	8,231	77,742		85,973
Minnesota.....	70,273	399,041		469,314
Mississippi...	4,603	92,308		96,911
Missouri......	5,464	47,705		53,169
Montana.......	622,284	103,166		725,450
Nebraska......	200,000	34,361		234,361
Nevada........	551,562	23,388		574,950
New Hampshire.	13,772	41,300		55,072
New Jersey....	5,440	60,230		65,670
New Mexico....	847,000	173,111		1,020,111
New York......	37,375	50,662		88,037
North Carolina	6,934	63,767		70,701
North Dakota..	257,661	220,005		477,666
Ohio..........	28,414	95,583	233,930	357,927
Oklahoma......	200,500	150,612		351,112
Oregon........	730,832	133,222		864,054
Pennsylvania..	5,440	41,462	82,520	129,422
Rhode Island..		18,766		18,766
South Carolina	2,968	57,570		60,538
South Dakota..	263,247	99,898		363,145
Tennessee.....	6,041	154,107		160,148
Texas.........	1,500,000	626,968	88,000	2,214,968
Utah..........	788,000	10,571	349,800	1,148,371
Vermont.......	10,000	34,102		44,102

STATE	PREDATORS	OTHER 1/	RESEARCH	TOTAL
Virginia......	17,602	54,191		71,793
Washington....	258,517	118,151	187,130	563,798
Washington, DC		547,225		547,225
West Virginia.	19,141	45,918		65,059
Wisconsin.....	14,153	129,886		144,039
Wyoming.......	815,967	9,857		825,824
Total	10,874,083	6,641,875	4,933,405	22,449,363

ANIMAL DAMAGE CONTROL
FISCAL YEAR 1988

STATE	PREDATORS	OTHER 1/	RESEARCH	TOTAL
Alabama.......	7,000	39,000		46,000
Alaska........	2,000	43,000		45,000
Arizona.......	319,000	81,000		400,000
Arkansas......		229,000		229,000
California....	1,009,000	116,000		1,125,000
Colorado......	1,002,000	800,000	3,695,000	5,497,000
Connecticut...		22,000		22,000
Delaware......		24,000		24,000
Florida.......		12,000	191,000	203,000
Georgia.......	6,000	63,000		69,000
Hawaii........		30,000	240,000	270,000
Idaho.........	734,000	79,000	203,000	1,016,000
Illinois......	11,000	97,000		108,000
Indiana.......	8,000	131,000		139,000
Iowa..........		24,000		24,000
Kansas........	178,000	122,000		300,000
Kentucky......	6,000	70,000	255,000	331,000
Louisiana.....	28,000	164,000		192,000
Maine.........	7,000	60,000		67,000
Maryland......		2,253,000 2/		2,253,000
Massachusetts.	2,000	20,000		22,000
Michigan......	8,000	72,000		80,000
Minnesota.....	72,000	389,000		461,000
Mississippi...	7,000	102,000	225,000	334,000
Missouri......	6,000	46,000		52,000
Montana.......	796,000	17,000		813,000
Nebraska......	171,000	59,000		230,000
Nevada........	518,000	12,000		530,000
New Hampshire.	14,000	40,000		54,000
New Jersey....	6,000	59,000		65,000
New Mexico....	791,000	146,000		937,000
New York......	37,000	50,000		87,000
North Carolina	7,000	63,000		70,000
North Dakota..	282,000	187,000		469,000
Ohio..........	30,000	79,000	243,000	352,000

STATE	PREDATORS	OTHER 1/	RESEARCH	TOTAL
Oklahoma......	178,000	176,000		354,000
Oregon........	718,000	132,000		850,000
Pennsylvania..	6,000	164,000	86,000	256,000
Rhode Island..		19,000		19,000
South Carolina	3,000	59,000		62,000
South Dakota..	243,000	84,000		327,000
Tennessee.....	6,000	155,000		161,000
Texas.........	1,383,000	561,000	91,000	2,035,000
Utah..........	720,000	46,000	263,000	1,029,000
Vermont.......	10,000	74,000		84,000
Virginia......	19,000	56,000		75,000
Washington....	290,000	95,000	194,000	579,000
Washington, DC		555,000		555,000
West Virginia.	21,000	43,000		64,000
Wisconsin.....	29,000	212,000		241,000
Wyoming.......	734,000	78,000		812,000
Total	10,424,000	8,309,000	5,686,000	24,419,000

ANIMAL DAMAGE CONTROL
FISCAL YEAR 1989

STATE	PREDATORS	OTHER 1/	RESEARCH	TOTAL
Alabama.......	7,000	31,000		38,000
Alaska........	2,000	12,000		14,000
Arizona.......	78,000	57,000		135,000
Arkansas......		178,000		178,000
California....	91,000	249,000		340,000
Colorado......	361,000	700,000	3,231,000	4,292,000
Connecticut...		18,000		18,000
Delaware......		20,000		20,000
Florida.......		12,000	153,000	165,000
Georgia.......	6,000	50,000		56,000
Hawaii........		30,000	177,000	207,000
Idaho.........	253,000	144,000	200,000	597,000
Illinois......	11,000	77,000		88,000
Indiana.......	8,000	105,000		113,000
Iowa..........		20,000		20,000
Kansas........	17,000	9,000		26,000
Kentucky......	6,000	49,000	215,000	270,000
Louisiana.....	28,000	143,000		171,000
Maine.........	7,000	45,000		52,000
Maryland......		838,000		838,000
Massachusetts.	2,000	16,000		18,000
Michigan......	8,000	69,000		77,000
Minnesota.....	72,000	254,000		326,000
Mississippi...	7,000	82,000	198,000	287,000
Missouri......	6,000	36,000		42,000
Montana.......	134,000	64,000		198,000
Nebraska......	13,000	17,000		30,000
Nevada........	283,000	143,000		426,000
New Hampshire.	14,000	30,000		44,000

STATE	PREDATORS	OTHER 1/	RESEARCH	TOTAL
New Jersey....	6,000	47,000		53,000
New Mexico....	150,000	162,000		312,000
New York......	37,000	34,000		71,000
North Carolina	7,000	58,000		65,000
North Dakota..	0	155,000		155,000
Ohio..........	30,000	79,000	179,000	288,000
Oklahoma......	17,000	232,000		249,000
Oregon........	102,000	147,000		249,000
Pennsylvania..	6,000	103,000	100,000	209,000
Rhode Island..		15,000		15,000
South Carolina	3,000	45,000		48,000
South Dakota..	26,000	1,000		27,000
Tennessee.....	6,000	154,000		160,000
Texas.........	69,000	101,000	49,000	219,000
Utah..........	300,000	45,000	263,000	608,000
Vermont.......	10,000	58,000		68,000
Virginia......	19,000	39,000		58,000
Washington....	23,000	23,000	160,000	206,000
Washington, DC		276,000		276,000
West Virginia.	21,000	32,000		53,000
Wisconsin.....	29,000	168,000		197,000
Wyoming.......	192,000	136,000		328,000
Total	2,467,000	5,608,000	4,925,000	13,000,000

1/ Includes technical assistance, environmental impact statement, administrative support, and program direction.
2/ Included $1,000,000 for an environmental impact statement.

Question: Do you see a shift from traditional on the ground predator control activities in the Western Region toward research and technical advice and assistance?

Answer: We do not plan to shift our emphasis away form current predator control programs. For FY 1989, we are shifting the responsibility for program costs on State and private lands to cooperators. In FY 1988, we are devoting additional funds to our research program in an effort to correct certain deficiencies that threaten our ability to develop and maintain pesticide registrations and provide practical technology for the traditional program.

As a laboratory facility, the Denver Wildlife Research Center must meet the Good Laboratory Practices standards established by the Environmental Protection Agency in order to have its work accepted as scientifically valid. Also, the center uses animals for research and should adhere to USDA's animal welfare standards. An assessment of the Center found that it did not comply with either set of regulations.

In response, we have moved to begin bringing the Center in compliance with animal welfare and Good Laboratory Practices standards this year. We have established an Animal Care Committee in accordance with the Animal Welfare Act to monitor our compliance with animal welfare regulations. We have also established an Animal Care Section to centralize research activities involving captive animals and their care, and will hire a veterinarian to supervise the new section. We have also allocated funds to begin modernizing our animal holding facilities, with completion expected in FY 1989. We have closed substandard animal holding facilities until they are upgraded.

The DWRC has implemented a program to comply with Good Laboratory Practices by upgrading laboratory and data archive facilities, purchasing laboratory equipment, reorganizing Center personnel into more efficient work units, and hiring new personnel where needed. We have also started a quality assurance program with the appointment of a quality assurance officer.

Question: How do you explain the Department's estimate that the FY 89 request for $13 million will be able to protect over 9 million head of livestock in view of the estimates for the past two fiscal years?

Answer: The estimate assumes that States, local governments, and industry would reimburse APHIS for its predator control work on non-Federal land so that the work can be carried out at approximately the same level as in FY 1988. The $13 million represents the APHIS cost of conducting research, and providing technical assistance, with any remaining funds used for predator control on Federal land.

Question: What kind of research is being done that will help Western predator control?

Answer: The current program emphasizes maintenance of pesticide registrations and improvement of existing predator control tools used by animal damage control specialists and ranchers. We are devoting substantial effort to improving the efficiency and utility of the M-44 sodium cyanide ejector, to supplying data required by the Environmental Protection Agency to maintain the Federal registration of the livestock protection collar, and to developing effective baiting techniques control. Field work on multiple stimulus coyote frightening devices has been completed and the Animal Damage Control program has advertised the availability of this technology to potential manufacturers. Additional work is underway to develop improved coyote attractants for use with control devices, to develop test standards and improve designs for coyote snares, and to evaluate the effectiveness of winter aerial hunting in remote mountainous grazing areas for reducing spring and summer coyote predation on sheep.

Question: What progress has been made on Compound 1080 single dose baits?

Answer: Several actions, including rehabilitation of the Denver Wildlife Research Center chemistry laboratories and hiring staff for chemical registration research, are underway to enable studies to proceed that support registration of 1080 and other toxicants. These studies would involve field trials that would require experimental use permits from the Environmental Protection Agency. In addition, we are examining ways to increase the likelihood that coyotes will take 1080 baits and reduce bait-take by birds and other non-target wildlife. Research indicates that compound 1080 single does baits have the potential to become an important addition to currently available control tools.

GRASSHOPPER AND MORMON CRICKET

Question: I have enjoyed our past cooperation in establishing the program for grasshopper control. We have learned a lot about the control of grasshoppers and the influence of weather conditions on dramatic outbreaks. Because of the uncertainty of conditions leading to an outbreak of grasshoppers, we established the reserve fund so that funds would be available to react when these disasters occur without diverting funding from other programs. I am not pleased to see the proposed reduction in current budget authority and elimination of the $5 million reserve fund.

The FY 1988 budget included approximately $9 million for grasshopper and Mormon cricket control programs, including $5 million for the reserve fund. Congress directed that $3 million of the remaining funds in the FY 87 reserve fund be used for the second year of the Integrated Pest Management (IPM) program in North Dakota and Idaho.

What is the status of the IPM program?

Answer: IPM project field activities were initiated in the spring of 1987 to coincide with the spring grasshopper hatch. Activities included testing improved survey methodologies and data analysis techniques to better predict the need for timing of treatment; development of methodologies for integrating biological and chemical control methods with range management practices; and assessing environmental impacts. The project was only carried out at one of the two demonstration sites--McKenzie County, North Dakota--due to low grasshopper populations at the Idaho demonstration site located in the Bureau of Land Management's Boise, Idaho, district.

In FY 1988, in accordance with direction from the Congress, APHIS will spend at least $3 million in support of the program.

Question: Given the fact that the program was designed to be a 5-year program with APHIS as the lead agency, why has FY 1989 funding for grasshopper control been reduced and why has the reserve fund, which has provided funds for this program in the past, been eliminated?

Answer: We plan to fund the IPM program at a $2.1 million level in FY 1989 using funds from the annual appropriation rather than the reserve fund. Thus, allowing us to eliminate the reserve fund. The requested amount should be sufficient for the program because many start-up costs were completed in FY 1987.

Question: According to a statement issued by the Department of Agriculture on January 13, key participants in the Integrated Pest Management program indicated that the program shows great promise, but it is still too early to draw any firm conclusions.

In view of these statements by the late Dr. Houston, why would you eliminate the reserve fund until you are certain this "solution" works?

Answer: In FY 1989, we plan to fund the IPM program at a $2.1 million level using funds from the annual appropriation. We believe that any infestations on Federal lands can be handled through the reimbursement mechanism with the Department of the Interior or with funds carried over in the no-year control fund. Further, the intensive control measures of recent years have resulted in large reductions in grasshopper populations. This should reduce the level of control needed and will enable the affected States and ranchers to assume a greater share of the costs that do arise.

NOXIOUS WEEDS

Question: I am pleased to hear that the noxious weeds are so well under control on state and private lands. I have not received the same report for the federal lands in my state. Therefore, I see no reason to believe that the problems are all resolved. If hydrilla and common crupina are near eradication, it would seem that other noxious weeds would be available that have caused similar problems for ranchers and farmers. It is also important to keep in mind that noxious weed infestations on state and private lands often originate from public lands.

Will you provide me with the acres of hydrilla and common crupina treated on state and private lands by state for the last three years and the remaining inventory of acres without treatment? Please provide that for the record.

Answer: The information follows:

	Hydrilla		Common Crupina	
State	Treated	Untreated[1/]	Treated	Untreated
California	275 miles	127 miles	--	--
Florida	*	38,000 acres	--	--
Idaho	--	--	366 acres	23,000 acres[2/]

* Less than 1 mile

1/ Hydrilla has also been found in 6 other counties in California and in Alabama, Arizona, Georgia, Louisiana, Texas, South Carolina, North Carolina, Virginia, and Maryland.

2/ Common crupina has been eradicated from 99 percent of the 366 acres treated in the feasibility study. It is widely dispersed throughout 400,000 acres of land in Idaho.

Question: Do you have a list of other noxious weeds existing on Western state and private lands? Please provide that for the record as well.

Answer: The information follows:

State	Noxious Weed
California	*Orobanche* *ramosa*
	Salsola *vermiculata*
	Pennisetum clandestinum
	Monochoria *vaginalis*
	Asphodelus fistulosus
	Ipomoea aquatica
Utah	Goatsrue
Texas	*Orobanche* *ramosa*
	Pennisetum clandestinum
Hawaii	*Monocharia* *vaginalis*
	Ipomoea aquatica

The 5-year feasibility study on the eradication of common crupina in Idaho is scheduled to end this year (FY 88). The program has shown promising results on the 7,250 acre trial eradication area.

Question: How do you propose to translate the results of this program to remaining areas infested by common crupina if no funds are appropriated for this purpose?

Answer: The common crupina eradication feasibility study in Idaho is a cooperative effort which has succeeded in eliminating the weed from 99 percent of the trial area. The study has refined techniques for a larger scale program that affected States can use without Federal assistance to eradicate the weed. Current efforts are directed at finding control strategies to eliminate the small isolated patches that remain in the trial area.

BRUCELLOSIS

Question: Good progress has been made in reducing the incidence of brucellosis. The objective is to eradicate this disease.

Can you provide a list of states in each class of class A and below, including the date of projected class free status? Please do so for the record.

Answer: We would be pleased to provide the information for the record.

Brucellosis State Classification Timetable

State	Current Classification	Projected Class Free
Alabama	A	FY 1991
Arizona	Free & A	FY 1988
Arkansas	B	FY 1993
California	A	FY 1991
Colorado	A	FY 1989
Florida	B & C	FY 1995
Georgia	A	FY 1990
Idaho	A	FY 1989
Illinois	A	FY 1989
Iowa	A	FY 1989
Kansas	A	FY 1990
Kentucky	B	FY 1991
Louisiana	C	FY 1995
Mississippi	B	FY 1992
Missouri	A	FY 1991
Nebraska	A	FY 1989
Nevada	A	FY 1989
New Mexico	A	FY 1989
Oklahoma	B	FY 1992
Oregon	A	FY 1988
South Dakota	A	FY 1990
Tennessee	A	FY 1990
Texas	B	FY 1995
Virginia	Free & A	FY 1988
Washington	A	FY 1988

QUESTIONS SUBMITTED BY SENATOR KASTEN

MEDITERRANEAN FRUIT FLY

Question: Dr. Glosser, the Lake States Division of Rhinelander Paper Company recently bid on a contract to supply a type of yeast needed for the 1988 Medfly control program to APHIS. Lake States' bid was not accepted; the company, alleging that USDA changed the award criteria after bids were submitted, has filed Protest No. B-230078.1 with the General Accounting Office. My questions are as follows: a. Should GAO rule in favor of Lake States, is its decision binding on USDA?

Answer: A rule in favor of Lake States would be binding on USDA. However, the two yeast contracts that Lake States bid upon are now substantially filled and could not be reawarded.

Question: Should GAO so rule after the contract has been filled, what compensation is Lake States entitled to?

Answer: Lake States would be entitled to compensation for its bid preparation costs and costs involved in filing its protest with GAO.

Question: If none, what other recourse does Lake States have (for example, legal action) and what are the limits on the damages Lake States may seek?

Answer: When GAO rules on this protest, Lake States will have exhausted its administrative remedies. Lake States could only seek redress in Federal District Court.

ANIMAL DAMAGE CONTROL

Question: APHIS works cooperatively with Wisconsin's Department of Natural Resources and several Wisconsin counties to address the problem of damage caused by Canada geese and deer in the Horicon Marsh area. Every year, some 400,000 to 500,000 geese use farm fields, damaging crops. In addition, the Fiscal Year 1988 appropriation contained a $100,000 earmark for beaver damage control in northern Wisconsin.

Wisconsin DNR has advised me that they have been told that purchases of equipment necessary for animal damage control work have been put on hold. Unless equipment such as vehicles and traps for beaver damage control and scare cannons, propane and seed for lure crops for goose damage control can be obtained, these ADC programs will not be effective. The beaver damage problem is especially urgent, as the ice on rivers and streams in northern Wisconsin melts in mid-late April.

I'd like to know the reason for the freeze on equipment purchases, and to ask if it can be lifted sufficiently to allow Wisconsin to purchase basic equipment needed for urgent ADC problems. I sincerely hope that Wisconsin is not being shortchanged in order to accommodate other states.

Answer: We held back on major equipment purchases in all States until we had a clear idea of our actual funding in FY 1988. We realize the urgency of this situation and are moving to purchase the necessary equipment for the program in Wisconsin.

Question: Further, I note that the FY 89 budget request deletes funding for ADC in Wisconsin. Why does APHIS feel that Wisconsin's ADC problems require less attention than those in certain Western states?

Answer: We will continue the Wisconsin animal damage control program in FY 1989. Our FY 1989 budget request contains $197,000 for the Wisconsin program. The reduction from FY 1988 reflects the program-wide decision to seek reimbursements from cooperators for all work on State and private land.

MOSCAMED AND CAPMED

Question: Dr. Glosser, I am concerned about the environmental effects of two projects known as Moscamed and CAPMED for the eradication of Mediterranean fruit flies from Guatemala and all of Central America. I was pleased to learn that APHIS and the Government of Guatemala had agreed to remove the cancer causing fumigant EDB from Moscamed. I am none the less troubled by other effects of these projects. Has APHIS compiled an inventory of nontarget species that might be affected by Moscamed? If not, why not?

Answer: APHIS has not compiled an inventory of non-target species that might be affected by the Moscamed program. An environmental assessment of the Moscamed program in Guatemala is currently being developed by the Consortium for International Crop Protection under a contract with USAID. The effect of malathion on nontarget species is one of the main areas being investigated by the environmental assessment team. It is estimated that the assessment will be completed in July 1988.

Technologies employed in the program have been used not only in the United States, but in other areas of Central America, South America, and Africa without adversely impacting the environment. Temporary reductions in certain species of arthropods could be expected, however permanent reductions are not likely because of patterns of use and application rates.

Question: Although EDB has been removed from these projects, I understand that another toxic fumigant, methyl bromide is now under consideration. What are APHIS' conclusions with respect to the health implications of methyl bromide in Central America?

Answer: Methyl bromide is currently being used as a quarantine tool in the Moscamed program. It is registered for use in the United States and is used as a fumigant for selected fruits being imported into and exported from the United States. The Moscamed program cooperators are currently evaluating a number of potential non-chemical quarantine tools for use in the program such as dry-heat and hot-water treatments.

Question: What research has been conducted on nonchemical alternatives?

Answer: Research on non-chemical alternatives is presently being focused on hot-water treatment of mangoes, and dry-heat treatment for papaya and possibly other fruits including citrus.

Question: One of the concerns about these projects is their cost ineffectiveness. Have any of the beneficiaries of the projects, such as U.S. growers, ever stated that either or both of these projects are sufficiently cost effective to justify the investment of their own funds?

Answer: Both Mexico and Guatemala provide funds and make in-kind contributions to the program. APHIS has not approached U.S. growers for financial assistance, but they have consistently supported the objectives of the program.

In regard to the cost effectiveness of the program, based on information provided from the affected counties, the Food and Agriculture Organization of the United Nations, FAO, and USDA, an economic analysis of the eradication of Medfly from Central America and Panama was prepared in April 1985. Benefit/cost ratios ranged from 0.8 to 2.5 depending on different assumptions about coffee losses due to Medfly and the potential for marketing additional coffee from Central America.

Question: To what extent has APHIS investigated the possibility of containing the Medfly risk in Central America while delaying the further implementation of these projects until technological advances permit environmentally benign alternatives to EDB, methyl bromide and malathion to be deployed?

Answer: Because the Moscamed program is an international cooperative program, a decision to maintain a stationary barrier zone in Guatemala would require the concurrence of all the cooperators. Guatemala has in the past expressed dissatisfaction with a stationary barrier zone concept. At the present time, the barrier zone in Guatemala is not being expanded until an environmental assessment is completed for the Moscamed program and reviewed by the appropriate Congressional committees. The environmental assessment is currently being developed and should be completed in July 1988. In addition, APHIS, in cooperation with the Agricultural Research Service, has taken the lead in identifying, developing, and testing alternative and environmentally safe quarantine and control tools. Potential alternatives include the use of boric acid as a substitute for malathion, and hot-water treatments of mangoes as a quarantine tool.

QUESTIONS SUBMITTED BY SENATOR HATFIELD

GYPSY MOTH

Question: In 1985 the State of Oregon, with the cooperation of the Animal and Plant Health Inspection Service (APHIS), began an effort to eradicate a widespread gypsy moth infestation from the State. In an agreement reached between OMB Director David Stockman, Secretary Block and me, it was agreed that USDA-APHIS would provide funding assistance to the State of Oregon to complete its eradication program. What funding level has APHIS provided the State of Oregon in the last three fiscal years for the gypsy moth program?

Answer: USDA funding for eradication of isolated infestations of the gypsy moth in the State of Oregon for the past 3 years was $6,241,000 in FY 1985, $4,436,000 in FY 1986, and $437,000 in FY 1987.

Question: What was the formula for carrying out the spraying program?

Answer: USDA covered 100 percent of the spray operations and post-treatment survey costs on Federal land, and 50 percent of these costs on State and private land.

Question: How has the State utilized these funds?

Answer: These funds were used by the State of Oregon for spray operations and post-treatment surveys on Federal, State, and private land.

Question: Has the State's spraying program been successful?

Answer: The program has been very successful. After 3 years of multiple applications of Bacillus thuringiensis -- Bt -- only isolated infested patches on 3,550 acres of the original 227,000 acre infestation remain.

Question: Do you believe that the gypsy moth infestation in Oregon still holds the potential to spread back onto Federal lands?

Answer: Any existing gypsy moth infestation has the potential to spread if it is not contained and eradicated. Because the isolated infestation in Oregon has not yet been completely eradicated, the potential for an increase in the moth population and the subsequent spread of the pest onto Federal land exists.

Question: The Senate Report to accompany S. 1800, the Agriculture, Rural Development, and Related Agencies Appropriation Bill, 1988 (Senate Report 100-203), contains a clear directive that "APHIS is to provide such sums as may be necessary to complete treatment on those Federal, State, and private lands in Oregon which remain affected by gypsy moth infestation." What Federal assistance has the State of Oregon requested for its 1988 spraying program?

Answer: The State of Oregon has requested Federal assistance totaling $303,780 for the eradication project in FY 1988. This includes $149,893 for spraying operations and $153,887 for post-treatment surveys. This request for Federal funds is based on the same cost sharing formula used in past years.

Question: When can the State expect to receive these funds?

Answer: The requested funding will be provided in time to begin spring treatments.

FEDERAL GRAIN INSPECTION SERVICE

QUESTIONS SUBMITTED BY SENATOR BURDICK

WHEAT CLASSIFICATION

Question: Have you established any new classes, and are you now able to distinguish conclusively the various classes?

Answer: The wheat classification working group reported to me July 1987 that we have not established any new classes of wheat nor can we distinguish conclusively the current classes. A new wheat classification system has not yet been formulated. The working group requested an extension to continue research on developing an accurate and reliable objective classification system. FGIS, in cooperation with the wheat classification working group and the Agricultural Research Service, has made significant progress toward resolving the wheat classing problem. A single seed hardness test has been developed to distinguish hard wheat from soft wheat. In addition, calibrations for near infrared reflectance--NIR--instruments have been developed that show promise for distinguishing Hard Red Winter wheat from Hard Red Spring wheat. When mixtures of hard and soft wheat are not present, the NIR can be used to identify whether or not the class is hard or soft. All of these testing methods are currently being evaluated using 15,000 market samples. On March 30, 1988, the wheat classification working group is holding an open meeting in Beltsville, Maryland, to review the status of this research.

Question: Are our country elevators equipped to deal with the wheat classification nuances?

Answer: If the research concludes that NIR technology can be used for the basis of an objective quality-based classification system, then many elevators in the United States will probably be able to use their protein NIR instruments to adopt the new classification system.

GRAIN QUALITY

Question: There have been recent news reports of a Nebraska effort to ship perfectly clean grain abroad.

Are you familiar with this program?

Answer: Yes, we are aware of the program.

Question: What is your opinion of it?

Answer: Shipping grain, Identity Preserved--IP--from point of production to the final foreign destination is one way of fulfilling specific quality requirements of the foreign customer. Small specialized shipments such as high quality soybeans are frequently containerized and exported directly from the farm or local elevator. The frequency and size of such shipments is dictated by market demand. IP shipments are more costly and historically the foreign grain market has been reluctant to accept the increased cost except for specialized end-use needs.

Question: Could it be used as a model for other states and for exporters?

Answer: Yes, the Nebraska program could serve as a model. Several States and independent exporters have considered establishing similar IP programs in the past. None have developed into widespread major programs.

QUESTIONS SUBMITTED BY SENATOR HARKIN

DUST SUPPRESSANT

Question: Mr. Miller: Dust in elevators has been a big problem for a long time. Dust elimination can be a very expensive process.

When storing beans, a significant number of elevators like to apply soybean oil to keep the dust down which seems to be effective and relatively low cost. However, they have developed an inspection problem.

It seems the Federal grain inspectors are sometimes docking beans for a musty odor when it is sprayed with oil. That can cost 10 cents per bushel although there is no real problem with the beans.

I am told about one story where an elevator sold some beans to Cargill and to ADM. Those that went to Cargill were fine. Some of the truckloads that went to ADM were docked and others were not. The decision was appealed to the Federal level. Four samples were sent in. One from each of three bins and a fourth which was a combination of the first three. The first three samples were fine. But, the combined sample came back musty.

I am told that there is a very interesting test for musty. The inspector smells it and pronounces a judgement.

Is FGIS working to develop a reliable test to see if grain is musty? And, if not, can you look into developing such a test and report back to the Committee?

Answer: The addition of mineral oil or soybean oil to soybeans does not generally by itself cause soybeans to grade musty. Musty odors usually are caused from soybeans being stored at too high of a moisture content and/or inadequate aeration. Most likely something other than an oil suppressant causes the musty odor. Soybeans containing a detectable oil odor are graded sample grade because of a "commercial objectionable foreign odor."

In answer to your question about an objective odor tester, FGIS issued a research contract for the development of an instrument that will objectively identify grain odors. An instrument has been developed that is capable of separating and identifying mixtures of organic vapors. However, the instrument is quite sophisticated and actual compounds or mixtures of compounds which combine to form a particular odor are very complex and unknown at this time. The Agricultural Research Service recently assumed responsibility for the identification of these compounds.

GRAIN STANDARDS

Question: I understand that there can be an appearance problem with coated grain. But, it has no effect on processing. I understand that Brazil and some other countries have moved towards a grain grading standard that indicates their suitability for processing. Is FGIS looking into that approach?

Answer: I assume that you are referring to soybeans. FGIS is in the process of field testing near infrared reflectance--NIR--instrumentation for measuring protein and oil content of soybeans. If the field test proves successful, plans are to make protein and oil measurements available upon request of the applicant for inspection.

Question: If FGIS is, when is something likely to be proposed in that area?

Answer: Because of field testing, equipment procurement by official agencies and FGIS, and standardization of the equipment, the earliest the service could be offered would be for the 1990 crop year. While protein and oil content would be a major achievement towards identification of the soybeans suitability for processing, an additional test is needed to identify the quality of oil. Presently, the only suitable method within current inspection constraints is a visual damage determination. This procedure is hampered when soybeans are coated with dust resulting from treatment with a dust suppressant. The Agricultural Research Service is researching the possibility of an objective oil quality test that will meet inspection needs, but no such test is imminent.

Question: What problems do you see in setting up such a standard?

Answer: We do not plan to establish specific standards for soybean oil and protein but these tests would be available as other criteria upon request of the applicant. Once a testing program is available for measuring the quantity of soybean oil and protein, the service will be provided on a nationwide basis. Further, whether the protein and oil results will be reported on "constant," "dry matter," or "as is" moisture basis must be considered.

FOOD SAFETY AND INSPECTION SERVICE

QUESTIONS SUBMITTED BY SENATOR BURDICK

WHISTLEBLOWERS

Question: About how many whistleblower complaints has FSIS received in 1987?

Answer: In 1987, USDA's Office of the Inspector General received 39 complaints concerning FSIS.

Question: How does this compare with such complaints over each of the past three years?

Answer: There were 39 complaints in 1986, and 22 complaints in 1985, the first year of record by OIG.

FISH INSPECTION

Question: In recent years there has been a great deal of discussion about expanding Federal Food Inspections to include fish, and I am pleased that you are working on an interagency study on this topic. When do you expect that you will complete this study?

Answer: FSIS is providing technical support to the National Marine Fisheries Surveillance Program. A plan of operations manual was published in September 1987. Included in the manual are project plans and milestones. The Commerce Department, The Food and Drug Administration and FSIS are currently involved in a study the purpose of which is to evaluate the safety of both domestic and imported seafood including consideration of health risks, sources of hazards, and analyses of options. We expect the study to be completed by December 1988.

Question: Will it include recommendations for mandatory inspections?

Answer: The system under development is an industry surveillance system. Mandatory inspection authority similar to meat and poultry inspection authority is not a planned option.

Question: Will the study include a review of imported seafood, as well as domestic seafood?

Answer: Issues involving imported seafood are included in the National Academy of Sciences study.

Question: If mandatory inspections were required, do you believe that the size of the FSIS workforce would have to be significantly increased?

Answer: If the enacting legislation delegated responsibility for mandatory fish inspection to FSIS, the workforce would have to be significantly increased. Fish inspection would likely include certification and inspection of vessels and harvest sites, in addition to plant inspections.

MICROBIAL QUALITY OF FOODS

Question: With the formation of the Advisory Committee on Microbiological Quality for foods, it is expected that microbial criteria for assessing the safety and wholesomeness of food will be reviewed. Will the final recommendations of the Committee include methods for reducing the risk of foodborne illnesses in our population?

Answer: The Committee will be asked to provide advice and recommendations on the use of microbial criteria as means of assuring the safety and wholesomeness of foods and food ingredients. Recommendations will be presented to the appropriate Federal agency in the form of standards, guidelines, or purchase specifications. In turn, these standards, guidelines or purchase specifications can be incorporated into the various Federal, state and local government agencies' food protection programs, adding to their effectiveness in reducing the risk of foodborne illnesses.

Question: Will FSIS participate in attempting to formulate standards of risk that contamination poses for safety and the means for minimizing such risk?

Answer: As a participant on the National Advisory Committee on Microbiological Criteria for Foods, FSIS will be working with other members in recommending standards, guidelines, or purchase specifications as means of ensuring the safety, and wholesomeness of foods and food ingredients. One of the primary factors to be considered in the development of meaningful criteria is whether there is evidence of a hazard to health based on epidemiological data or hazard analysis for a particular food, food ingredient, or process.

Question: If the first meeting of the committee is to be held in April, how long do you believe it will be before final recommendations are forthcoming?

Answer: The initial meeting in April will be an organizational meeting which will set the agenda. The Committee will be asked to provide its recommendations as it completes its work on any given item. It is unknown, at this time, when the first recommendations will be forwarded to the various Departments. We do, however, expect the group to proceed as rapidly as possible.

Question: Will consideration be given to the risk assessment models and recommendations of the National Academy of Sciences in 1985 and 1987?

Answer: The National Academy of Sciences report "An Evaluation of the Role of Microbiological Criteria for Foods and Food Ingredients", identifies those factors which should be considered in determining the appropriateness of microbiological criteria for specific foods or food ingredients. The Microbiological Advisory Committee will be reviewing those factors as they prepare their recommendations for the agency.

Question: How do you believe such information would be helpful in modifying FSIS operations?

Answer: It is our expectation that the recommendations of the Advisory Committee will provide both FSIS and the industry with guidance that will enable us to reduce the microbiological contamination of food products.

DISCRETIONARY INSPECTIONS

Question: Dr. Crawford, in your statement to the Committee you discuss the implementation of the Discretionary Inspection system that will provide periodic rather than continuous inspection at some plants. When do you expect final regulations for implementation of periodic inspection procedures to be issued?

Answer: FSIS expects to issue proposed regulations concerning the Discretionary Inspection system during the summer of 1988. There will be a comment period, analysis of comments, and revisions considered before final rules are published.

Question: How soon after issuing these regulations will FSIS move toward national implementation of periodic inspection?

Answer: Discretionary Inspection will be implemented in stages beginning in the summer of 1988 and move forward with the gradual reshaping of the inspection program. Implementation will begin with a nationwide screening effort to identify plants suitable for periodic inspection; then assign inspection resources to processing plants based on risk-assessment. The next step will be to install risk based inspection in processing operations carried on in combination slaughter/processing establishments. Finally, the program will test variations in the inspection procedures such as team inspection use of directed sampling.

Before implementation of the new system, it will also be necessary for the Agency to consult and bargain with the National Joint Councils representing the inspectors on those matters, such as training and transfers, which are covered by our labor-management agreement with the employee organizations.

This systematic approach will enable FSIS to implement Discretionary Inspection and simultaneously continue adjusting and evaluating its component parts. The plan recognizes the evolutionary aspect of the discretionary inspection system and therefore plans to implement changes only after they are fully developed, discussed, and where necessary published for industry and public comment.

Question: In your testimony, Dr. Crawford, you mention that FSIS will provide an annual report to Congress evaluating the Discretionary Inspection program. Do you also intend to provide the appropriations committee with an assessment of Phase II of the Discretionary Inspection pilot project reviewing factors outlined in the Senate Appropriations report for fiscal 1988 before moving toward nationwide expansion?

Answer: FSIS will be glad to provide the appropriations committee with an assessment of Phase II of the Discretionary Inspection pilot project. This will be included in the 1988 Annual Report.

CONSUMER EDUCATION

Question: Recently FSIS announced that a "monumental task" lies ahead to educate consumers about the proper handling of refrigerated foods. Please explain some of the labeling techniques and consumer precautions recommended by your Agency?

Answer: The labeling for perishable canned meat and poultry products, which consumers might think are shelf-stable, is required to bear a warning about proper storage, such as "Keep Refrigerated" or "Keep Frozen." A recent agency directive now allows safe food handling statements on product labels. A recent policy memorandum set requirements for the new class of perishable prepared entrees, calling for plant quality control systems to ensure product safety and for the "Keep Refrigerated" notice on the label.

FSIS consumer education programs are aimed at expanding knowledge of safe food handling techniques by targeting materials to such groups as the media, the Extension Service, and state and national organizations such as consumer interest groups. The education programs include materials in Spanish as well as English and in 1989 will include descriptions of proper food handling methods adapted for junior high home economics and health classes. FSIS continues to operate its toll-free Meat and Poultry Hotline for immediate public inquiries.

The techniques publicized by FSIS emphasize refrigerator and freezer times and temperatures, cooking times and temperatures, holding times and temperatures, methods of reheating, and ways to minimize the risk of cross-contamination.

NEW TEST METHODS

Question: FSIS has announced new developments in the testing of swine for sulfamethazine residue contamination and of bob veal calves condemned for antibiotic/sulfa residues. Would you please explain what new testing procedures FSIS will be employing for these purposes?

Answer: FSIS will be employing a combination of several activities to reduce the sulfamethazine residue problem in swine. The enhanced program will include as its first action, collection of two samples weekly from each of the 100 largest swine slaughter establishments. The animal under test will be retained until laboratory results are reported to the inspector. Analysis will be by the FSIS quantitative thin layer chromatography procedure that identifies and quantifies sulfonamide residues. If positive violations are obtained, sampling will be geometrically increased in subsequent sampling of that particular establishment. Normal surveillance activity procedures will be employed by FSIS.

Beginning in April 1988, a rapid inplant test for sulfonamides will be phased into the program. Initial introduction will be in the 20 largest establishments and expand as expeditiously as practical to the 100 largest establishments. We anticipate completing this by the end of May 1988. As the Sulfa On Site (SOS) test is introduced other establishments will be added into the testing of sulfonamide residues by the quantitative thin layer chromatography procedure.

When the SOS test is fully in place, the laboratory analysis for sulfonamides will terminate. The SOS inplant test uses swine urine as the test sample. The procedure uses a modification of the laboratory thin layer chromatography procedure. The test procedure can analyze 6 samples at one time in approximately 30-40 minutes. Animal carcasses will be held by the inspector until test results are obtained. The self instruction guidebook provides details on how inspectors should interpret test results.

The SOS test is semiquantitative because the test uses internal standards for interpreting results. It allows a tester to determine (a) nondetectable sulfa residues, (b) low level concentrations of sulfamethazine residues above the tolerance, (c) sulfamethazine residue violations in liver and other organ tissues, but not a carcass residue violation, and (d) sulfamethazine residues above the 0.1 ppm tolerance in animal carcasses. Animals not exhibiting sulfonamide residues expected to result in a residue violation will be cleared by the inspector. The carcasses with suspect residue violation will be held and muscle tissue will be analyzed in an FSIS contract laboratory. Results from the quantitative test will be reported to inspectors for either releasing the retained carcass or condemning the carcass. For additional quality assurance FSIS will analyze a selected number of samples for gas chromatography-mass spectrometry confirmation to ensure program quality.

At some future date when evaluation of an immunoassay card test for sulfamethazine is fully validated, FSIS will evaluate its use in future sulfamethazine testing.

FSIS has two new procedures for chloramphenicol testing of bob veal calves. One is a rapid inplant immunoassay card test that provides a yes-no at a low--less than five parts per billion--concentration. It has undergone some independent evaluation to fully define its performance characteristics. The card test uses urine as a test sample. We believe it is rapid and reliable for use in testing bob veal calves and has the capability of analyzing many samples a day.

A new gas chromatography-mass spectrometry procedure using either muscle tissue or urine has also been developed to support the antimicrobial testing program. This test has demonstrated capability to detect and confirm the presence of chloramphenicol at five parts per billion concentration. FSIS is currently planning an interagency validation study of this method with the Center for Veterinary Medicine. The method is reliable, sensitive, and specific for chloramphenicol residues.

Because chloramphenicol is an unapproved drug in food producing animals, detection and confirmation of any amount of chloramphenicol results in a residue violation.

HAZARD ANALYSIS CRITICAL CONTROL POINT PROGRAM

Question: There has been a great deal of interest in the FSIS plant-operated Hazard Analysis Critical Control Point Program (HACCP) demonstration project in Puerto Rico. Some have suggested that this project provides ample comparative data on various inspection methods. Why was the petition to allow the National Academy of

Sciences to review information on the Puerto Rico project recently denied?

Answer: In the early stages of the project, steps were initiated to establish by contract a committee of five members of the scientific community, outside of FSIS, to review, critique, and give counsel on the progress and planned direction of the project. This group will provide the scientific overview required in evaluating the results of the test.

Question: Will data on this project be released in the near future?

Answer: After the project has been completed, the analyses evaluated, and the five scientific consultants submit the results of their review, FSIS will release the data in a comprehensive final report. We expect this to be available by the end of 1989.

Question: Does this project present an opportunity for comparative analyses of inspection methods?

Answer: This is not the purpose of the test, although it may generate some information that could be used for comparative analyses.

Question: When will this project be completed and final assessments made?

Answer: We expect all analyses to be completed, reviews by the scientific consultants submitted, and the final agency assessments of the project to be complete by September 1989.

QUESTIONS SUBMITTED BY SENATOR GRASSLEY

ADVISORY COMMITTEE ON MICROBIOLOGICAL CRITERIA

Question: I support the Food Safety and Inspection Service's efforts in forming the National Advisory Committee on Microbiological Criteria for Foods. This committee appears to strike a balance between the protection of consumers, the utilization of available science, and the interests of agriculture. You mentioned meetings of this committee are scheduled for April of this year. I realize this is a time consuming task, but I am interested to know when you expect this committee to produce a final report with recommendations?

Answer: The initial meetings of the Committee will develop an agenda for completion of the various stages of the Committees work, a target date for issuance of a final report will be part of this agenda. However, we expect the committee will release its recommendations as work is completed on each item.

Question: Do you anticipate any changes being made within your current microbiological testing program until these recommendations are released?

Answer: This fiscal year we began expanding the scope of our microbiological monitoring programs to include more products and more organisms of public health concern. In addition to our emphasis on salmonella, we have added L. monocytogenes. This emphasis is not expected to change even after the recommendations of the National Advisory Committee on Microbiological Criteria for Foods are released. However, the committee recommendations may provide both industry and the regulatory agencies the means of evaluating the effectiveness of microbiological control procedures in use. After release, we will evaluate these recommendations to determine if we are utilizing our laboratory resources in the most effective and efficient manner.

AGRICULTURAL MARKETING SERVICE

QUESTIONS SUBMITTED BY SENATOR BURDICK

INSPECTION, GRADING AND STANDARDIZATION SERVICES

Question: There is a concern that graded potatoes are being held for an unreasonable amount of time at delivery points when shipped. This results in a deterioration of quality to the detriment of the seller. Is AMS considering taking action that would ameliorate this situation?

Answer: AMS does not have jurisdiction over how long products are held at delivery points. However, the Perishable Agricultural Commodities Act (PACA) which we administer provides growers or sellers with the capability of recovering damages caused by the buyer who holds product for unreasonable periods of time before shipping. In order to justify paying less than the agreed upon price, buyers must provide strong evidence that there was a breach of contract by the seller and that the deterioration was not a result of the buyers' negligence in holding the product.

Question: Has AMS considered requiring purchasers to be on hand at delivery of graded potatoes?

Answer: A requirement that purchasers physically be on hand at the time of delivery would present great difficulties. Many receiving markets close early in the afternoon and do not re-open until the next morning, while shipments can arrive at the receiving location at any time of day. In addition, delivery by rail is often made to a railyard some distance from the receiver, who is notified of arrival after the railcar actually arrived. Since no standard presently exists to pinpoint the exact time of arrival, it would be difficult, if not impossible, for receivers to have someone available to meet incoming shipments at all times.

Question: Would a grade set at shipment be permitted to remain the grade set upon receipt?

Answer: It has been AMS policy that once a grade certification has been issued, that certificate remains valid unless another USDA grade certificate is issued. The additional certification would be needed if there was an error in the original certification or a change had occurred in the product due to a condition factor. If a buyer wanted to verify that product quality had not deteriorated in transit, the buyer would ask AMS to grade the product again. If product quality had changed, the new grade certificate would reflect the changes and would be the official determination of current product quality.

Question: Is AMS involved in working groups to establish grading and standards agreements for potatoes traded between the United States and Canada?

Answer: Each country currently has import requirements setting minimum quality levels for potatoes being received in international trade. Under provisions of these requirements both the United States and Canada are authorized to certify that potatoes exported meet the other country's requirements.

There was a Canada/U.S. Potato Meeting held in Toronto, Ontario, Canada in September 1987 for the purpose of increasing communication between the two countries. Charles R. Brader, Director of the Fruit and Vegetable Division of AMS, attended the meeting.

Question: What is AMS doing to assure that Canadian potatoes are sufficiently inspected and are meeting the same grade and standard requirements granted by Canada when imported to the United States?

Answer: There is a reciprocity agreement between the United States and Canada to accept the others' inspection certificates for potatoes. Since 1984, we have performed spot-checks with restricted or limited inspections at the Maine border to check the accuracy of the Canadian inspections. Potatoes that are suspected of failing to meet the minimum quality requirements at the border spot-check may be either returned to Canada for regrading or other disposition, or may be shipped to destination where a full inspection must be performed by an AMS inspector. If the potatoes fail inspection at destination, they must be either returned to Canada or destroyed. Potatoes are also checked to determine if they are correctly labeled. A team of inspectors are on duty at the Maine border 40 hours per week most of the season, with the effort being increased to two teams during the heavier shipping periods in early fall or late spring. Shifts are staggered, as are locations, to ensure that the incidence of inspection point avoidance is minimized.

Question: What is the status of the Administration's proposal to provide less-than-continuous in-plant inspection of egg processing?

Answer: Based on the concerns that have arisen recently over Salmonella and other harmful bacteria that may contaminate our Nation's food supply, the Administration has not re-submitted the legislative proposal for less-than-continuous inspection of egg processing operations as part of the FY 1989 budget.

Question: With the recent availability of cotton classing through personal computers or data tapes, how are ginners and grower agents helped? Is there any cost benefit as a result of the use of telecommunications?

Answer: From the user's standpoint, receiving classing data electronically reduces data entry costs and provides for instant availability of data. Cotton data received on computer tapes and diskettes can be loaded directly into the recipient's computer system without the time-consuming chore of keying in data from thousands of individual grade certificates. In the case of telecommunications, classing data can be transferred directly from the classing office minicomputer to the recipient's personal computer, and is therefore available to users as soon as quality determinations are made.

As a result of electronic dissemination, producers receive information in a more timely manner than previously when the information was sent through the mail. More timely information aids producers' marketing efforts and reduces their interest charges and bale storage costs. Furthermore, AMS' data handling and postage costs are also reduced significantly through the use of tapes, diskettes, and telecommunications. Overall, it is estimated that cotton classing costs are reduced by 7-10 cents per bale as a result of these innovations.

Question: What is the status of AMS efforts to establish a new fee structure for inspecting imported flue-cured and burley tobacco?

Answer: A new fee structure to recover costs for imported flue-cured tobacco has been developed and is under review in the Department. Similar to our existing fee structure, fee differentials have been established that take into consideration whether a shipment is uncertified or certified pesticide free.

WHOLESALE MARKET DEVELOPMENT PROGRAM

Question: The Wholesale Market Development has provided a variety of technical and practical assistance to urban areas for market and distribution of farm products.

Why is AMS proposing to eliminate the wholesale market development program in fiscal year 1989?

Answer: While the program has and continues to be beneficial, difficult decisions must be made during time of fiscal restraint. Although the program is proposed for elimination previously published reports on wholesale market designs will be available to cities and/or regions that wish to improve their wholesale market facilities and can serve as blueprints for future planning. Some of these reports would be available through the National Technical Information Service or State Departments of Agriculture in States where studies have been done.

Question: What are the current projects being funded under this program? Please provide a description of the projects, their location, and status. Will these projects be completed by the end of fiscal year 1988?

Answer: Surveys and analyses to determine the need for new or modified wholesale food market facilities have been completed for San Diego, California; Buffalo and Syracuse, New York; and Baltimore, Maryland. We will continue to provide technical assistance to these areas as these markets progress from the planning stage through construction, and subsequently into actual operation. Only the study results for San Diego are expected to be published in FY 1988.

A study to help determine the kinds and amounts of new fruit and vegetable marketing facilities needed to serve northeastern Mississippi growers and consumers has been partially completed. Final publication of the results of the study will not occur during FY 1988.

Market development research is being conducted in cooperation with the Horticultural Producers Federation to help 14 small farmer cooperatives in North Carolina, Tennessee, Kentucky, Virginia, Alabama, and Oklahoma compete in the wholesale vegetable marketplace. Final publication of the research results will not be completed in FY 1988.

Alternative marketing studies currently underway include catfish processing and marketing in southeastern Oklahoma, and research on commercial fresh vegetable production in south central Washington and north central Oregon. Certain phases of these projects have been completed in FY 1988.

Southwest Iowa is the study area for analyzing the economics of constructing and operating an alfalfa cubing plant. Final publication will not occur during FY 1988.

Research and technical assistance is being provided to small producers entering the Shiitake mushroom production and marketing system. The research will assess the size and growth opportunities of the U.S. Shiitake market. Studies have been started to determine what strategies can be developed for small producers to position their products in the marketplace. Final publication will not occur in FY 1988.

A research project on alternative disinfestation methods for Florida export grapefruit to Japan is complete and final publication is expected in FY 1988.

A study to identify the cause of damage to dry grocery products in warehouses, ascertain differences between conventional and mechanical operations, actions to control damage, and how damaged goods are recouped and/or disposed of has been completed. A final manuscript on the findings of the study is expected to be completed in FY 1988.

Development of a standard Uniform Produce Codes (UPC) and price look-up numbers (PLU) coding system for produce is currently underway. This coding system will provide generic UPC codes for all packages of fixed-weight produce, standardize all PLU numbers for produce throughout the U.S., and standardize item numbers for all variable-weight packages of produce. Final publication will not occur during FY 1988.

Research to increase safety, comfort and efficiency of USDA meat and poultry inspectors has been completed. Final publication of the results of the research is not expected during FY 1988.

A study to determine costs of various methods for harvesting, handling and transporting fresh broccoli, and to identify the lowest cost marketing system without compromising quality has been initiated. Secondary data on broccoli production and marketing in Georgia and South Carolina has been collected. Final publication of the results of the study are not expected during FY 1988.

Question: Do you believe that the continuation of projects to expand and improve wholesale market facilities is necessary? How will such projects be funded?

Answer: It is important that the United States have the most efficient food distribution system possible and to the extent that improved wholesale market facilities are part of the system, it is important to improve them. However, we believe these projects can be funded and undertaken by the States or regions requiring them as they see the need. Many projects have been conducted that can serve as a model for States wishing to improve their wholesale market facilities.

Question: What is the purpose of the $1,016,000 in close-out costs requested in the fiscal year 1989 budget?

Answer: If the program is terminated, close-out costs are necessary to fund employees' severance pay, unemployment costs and accrued annual leave.

BEEF GRADE NAME CHANGE

Question: You recently changed the name of a beef grade from "Good" to "Select." Please tell the Committee more about how the change will affect the beef industry and consumers.

Answer: The change in the grade name should benefit both the beef industry and consumers. Practically all of the beef that currently qualifies for the Select (Good) grade is marketed without an official USDA grade as "no-roll" beef. While approximately 80 percent of the "no-roll" beef is equivalent to the Select (Good) grade, the remaining portion is quite variable in both composition and palatability. Due to this wide variation, consumers have no guide to the palatability or composition of this beef and often have difficulty making comparisons because it does not carry an official USDA grademark. By providing the industry with an improved grade name, it is anticipated that retailers who currently market "no-roll" beef may use the new "Select" grade as a purchasing tool to provide a more uniform product to their customers. If this beef were officially graded, consumers would benefit from the improved uniformity and they would have the opportunity to use official grades to make more informed comparisons between either markets or grade levels. Even if retailers only use the Select grade as a purchasing tool and do not label cuts with it in the store, consumers could benefit from the improved uniformity of the product over that currently associated with beef purchased as "no-roll" beef by retailers and marketed under "house" names.

In addition, if a greater portion of the retail beef supply is officially graded, consumers would be able to more effectively signal the industry through their purchases, as to the quality levels and trimness levels they prefer. Thus, the industry can most effectively market its product and also, if necessary, adjust production of a given type of beef to provide consumers with the type product they most desire. Also, by more effectively identifying the most desired grades of beef, true value differences could be reflected in the marketplace.

MARKET NEWS

Question: I note in your prepared statement that a Market News office was recently opened in Miami. Could you please elaborate on why this office was needed, who it served, what information is reported, and the general benefits derived from the office?

Answer: In August 1983, President Reagan officially signed the Caribbean Basin Economic Recovery Act. The Act is designed to enhance the economic and political stability of the Caribbean region through trade, aid, and investment. As the Caribbean initiative gained momentum and imports surged, USDA and the Agency for International Development received numerous inquiries from growers and shippers in the Caribbean area for U.S. market information. Inquiries were also coming from U.S. exporters, importers, wholesalers, retailers, and researchers. The existing Florida market news offices in Pompano Beach and Winter Park could not cover reporting of these additional commodities with current staff. Therefore, USDA, AID, and the State of Florida combined resources to establish the Miami Market News office to provide price and supply information.

The Miami market news office issues reports for the fruits and vegetables sold on the Miami terminal market and for those fruits and vegetables grown in the Caribbean Basin which are imported through south Florida ports. Reports are also issued for ornamental crops imported through Miami and for imported cut flowers shipped through the Miami airport.

This new office provides timely and accurate market information on supply and prices which was not previously available. Establishment of the Miami office should enhance cooperation with the Caribbean area, while providing increased information to the domestic produce industry. The reports are being published in both English and Spanish by bilingual personnel in the Miami office.

Question: What is the justification for the increase in the market news budget in fiscal year 1989?

Answer: The goal of the market news program is to provide the public with timely, accurate, and understandable information on current market conditions. To enhance the system and make the information more timely and useful, the current method used for collection, processing, and dissemination of market news information needs to be updated with technology currently available. The development and implementation of a computerized data base and communications network will improve the timeliness of information delivery and make the information available in such a manner as to permit users to organize and analyze the raw data for specialized report formats. The new system will improve the operational efficiency of market news, allow the information to be accessible to a greater number of buyers and sellers and allow users to better organize and analyze data, thereby increasing the efficient utilization of the information. Approximately $650,000 of the requested $1.1 million increase is for this enhancement effort. The remaining $450 thousand is needed to fund the FY 1988 Federal salary increase and other increased operating expenses.

RESEARCH AND PROMOTION PROGRAMS

Question: The intent of the Beef Promotion and Research Program which became effective in July, 1986, is to expand domestic and foreign markets for beef and beef products. What have been the results of this program, and what is the status of the producer referendum which was mandated by the law?

Answer: During FY 1987, $73 million in assessments was collected from domestic producers and importers. Of this total, approximately $28 million was available to the certified State organizations and was used for local research and promotion efforts. The remaining $42 million was retained for use in nationwide research and promotion efforts. Of the total assessments collected, $3.8 million in refunds have been requested. Approximately 8% of the domestic assessments collected and 14% of the imported assessments collected have been requested as refunds.

While the program has only been in effect for a short time, we already have some indication that the program's goals are being achieved. Advertising efforts have increased consumer awareness and improved consumer attitudes towards beef. In addition, beef prices have increased over the past year, though it is difficult to attribute this solely to the research and promotion effort.

On May 10 of this year, the legislatively-mandated referendum will be conducted. At that time, cattle producers and beef importers will have an opportunity to choose whether to continue the beef research and promotion program. This decision will be the true barometer of whether the research and promotion efforts have been effective.

Question: Similarly, what is the status of the pork promotion and research program?

Answer: Similar to the Beef Promotion and Research program, the Pork Promotion and Research program has been operational for an entire year. Over $25 million in assessments from domestic producers and importers was collected in FY 1987. Of this total, over $5 million was retained by the State associations and used for local research and promotion efforts, and the remaining $20 million was available for use in nationwide research and promotion efforts. Overall, $2.7 million in refunds have been requested. Approximately 11% of the domestic assessments collected and 1% of the imported assessments collected have been requested as refunds.

The Pork Promotion, Research, and Consumer Information Act of 1985 which authorized the program, requires that a referendum be held between 24 months and 30 months following the issuance of the order. Therefore, the referendum must be held between September

1988, and February 1989. At that time, producers and importers will vote to decide if the program should continue.

Question: When will the Watermelon Research and Promotion Act be fully implemented?

Answer: In February 1987, public hearings were held to obtain evidence in support of or in opposition to the proposed plan for establishing a watermelon research and promotion program. A recommended decision based on the evidence from the public hearing has been prepared. Once approved, the recommended decision will be published and comments will be solicited. A Secretary's decision will then be issued. If the Secretary's decision recommends the issuance of a plan, a referendum will be held to determine producer and handler support. The Secretary will then issue the plan if supported by the producers and handlers.

MARKETING ORDERS

Question: Since the completion of the study, Criteria for Evaluating Federal Marketing Orders: Fruit, Vegetables, Nuts and Speciality Commodities, what has AMS done to develop marketing order criteria?

Answer: The team which prepared the "criteria study" developed generic lists of suggested questions which industries and USDA might want to consider when evaluating both new marketing order programs and the implementation of regulations under existing programs. In conjunction with the study's suggestions, AMS developed a standardized list of topics and questions which industries should consider before requesting a marketing order program. Additionally, AMS developed criteria which marketing order administrative committees should consider when formulating seasonal regulations. Those criteria have been provided to each marketing order committee.

Question: Have performance guidelines been updated to include the performance measures developed through this study so that interested parties can weigh the merits and shortcomings of marketing orders?

Answer: The study did not develop performance measures. Rather, lists of questions critical to the decision-making process when evaluating proposals for new marketing order programs or implementing seasonal regulations were developed. Those questions, where applicable, are being utilized.

An Economic Analysis and Program Review Branch has been created within our Fruit and Vegetable Division specifically to enhance our ability to evaluate the economic impacts of new marketing order programs and seasonal regulations. That branch and others in AMS will continue our efforts to develop other specific performance criteria for marketing order programs.

Question: What is the full cost of implementing marketing orders and agreements?

Answer: In FY 1988, approximately $7.6 million in Federal funds is available for administering marketing agreements and orders: $3.4 million for milk marketing orders; and $4.2 million for fruit and vegetable orders. The budget for Milk Market Administrator's and their staffs total $34.4 million while the Fruit and Vegetable Administrative Committees' budgets total approximately $33.2 million.

Question: What is the percentage of the total and actual dollar amount that is paid by producers and handlers?

Answer: The $7.6 million in our budget request for Federal oversight of marketing orders are Federal funds. The funding needed to finance the fruit and vegetable and milk market administrators is raised through assessments on producers and handlers.

Question: Will any new marketing orders or agreements be established in fiscal year 1988?

Answer: Four potential marketing orders have been recommended by growers and/or handlers. Specifically, potatoes produced in the "High Plains" of Texas and Eastern New Mexico, seedless European cucumbers grown in greenhouses, Florida strawberries and Vidalia onions grown in Georgia. Of these four, only the Florida strawberry proposal may be established in fiscal year 1988. The reason why is that the establishment of a marketing order is a lengthy and time consuming process. Before a marketing order is issued by USDA, it must proceed through several stages. A public hearing is held and a recommended decision based on hearing evidence is issued by USDA. After comments and exceptions to the recommended decision are considered, USDA issues a final decision which contains the provisions of the marketing order. Producers vote on the order in referendum. If two-thirds of the voting producers favor the proposal, then the Secretary of Agriculture issues the marketing order.

In the case of the Florida strawberry proposal, a public hearing was held in May 1987, a Recommended Decision was published in the second quarter of FY 1988, and a final decision should be published in FY 1988.

For the other three proposal orders, preliminary hearings have not yet been held.

Question: Have any producers or handlers recommended such marketing orders or agreements that are awaiting AMS review?

Answer: All of the recommended marketing orders awaiting AMS review were suggested by producers or handlers.

Question: Are any marketing orders or agreements expected to be terminated in fiscal year 1989?

Answer: At this time, we do not expect to terminate any marketing orders in fiscal year 1989.

Question: Why has AMS revised its position on recovering the administrative costs associated with marketing orders and agreements?

Answer: Our proposal this year is consistent with budget decisions reached by the Administration and Congress last September when the Balanced Budget and Emergency Deficit Control Reaffirmation Act was enacted.

FEDERAL SEED ACT

Question: The fiscal year 1989 budget recommends a termination of AMS activities under the Federal Seed Act, with one-year phase-out costs of $722,000, resulting in a net decrease of $325,000 in federal funds.

The fiscal year 1986 budget also recommended a termination of the Federal Seed Act, but the fiscal year 1987 budget called for user fees rather than the termination of AMS activities. Could you please explain why your proposal has been revised several times over the past few years?

Answer: Two years ago when we first proposed elimination of the program we believed that states could effectively enforce seed laws without our assistance. Our position has not changed since then.

When this proposal was initially made, opposition was expressed by some State Departments of Agriculture and certain segments of industry, and Congress ultimately restored funding for this program. Although we still believed our involvement in the program was not necessary, last year we heeded the concerns which were raised and modified our proposal. Consequently, rather than proposing elimination of the program, user-fees were recommended as we believed seedsmen benefitted from our involvement in the program. Once again, Congress restored funding for this program. This year we are once again proposing elimination of the program. We recognize there will be opposition to the proposal, however, we do believe that states can effectively enforce seed trade laws and that our involvement is not necessary.

Question: Do all 50 states have seed acts in effect?

Answer: Yes, all 50 States have seed laws in effect.

Question: Are these state laws uniform and do they provide protection to sellers and buyers in interstate commerce?

Answer: The State laws are generally similar but do vary in some respects due to individual State or regional concerns. State laws cover seed offered or exposed for sale within the State, whether or not the seed originates within the State. This provides protection to sellers and buyers within the State of seed transported through interstate commerce.

Question: Precisely, what activities would AMS cease to conduct under this proposal?

Answer: AMS will cease all Federal Seed Act enforcement activities relating to interstate shipments of mislabeled seed including laboratory testing, trueness-to-variety field testing, investigation of complaints, and regulatory actions against shippers.

Question: Would seed sample tests, investigations, and enforcement of violations continue?

Answer: If there is sufficient demand, a seed testing function will be maintained to test seed samples on a fee-basis under the Agricultural Marketing Act. Also, we could continue to conduct--on a fee-basis--check testing, seed standardization testing, and seed analysts workshops. The responsibility of investigation and enforcement activities would be with the States.

Question: The AMS budget notes that "In the absence of the Federal Seed Act program, States can be expected to amend their programs to deal with interstate seed shipments." What amendments to state programs are anticipated?

Answer: In most States, legislation would be needed to establish State law provisions equivalent to the provisions of Title V of the Federal Seed Act, which prohibits sale or advertisement by variety name of non-certified seed on which a plant variety protection certificate has been issued. Some States may choose to amend their laws in other ways such as including more specific provisions covering the naming of varieties and brands, since those provisions are included in the Federal Seed Act but not most State laws.

Question: Would any of the phase-out costs recommended be used to help states identify how to amend their seed acts or to conduct inspections tests and take administrative actions on their own?

Answer: The close-out costs are needed to fund severance pay, unemployment compensation and accrued annual leave for those employees affected by the elimination of this program. Funds are not specifically included to help States identify how to amend their seed acts or to conduct tests and take action on their own.

Question: How long would it take states to adjust to the termination of the seed act program?

Answer: Since States already have seed laws in effect, we do not anticipate a major problem with the States adjusting to the termination of the program. The adjustment required will vary from State to State, since the degree of cooperation in enforcement of the Federal Seed Act varies among the States. The adjustments required will be greater for those States that submit large numbers of complaints than for States who submit few or no complaints.

Question: Would states be required to implement legislation to accommodate for termination of the federal program?

Answer: Although some States may want to amend the laws, we feel that the States do have adequate enforcement powers under existing laws.

Question: Has AMS taken into consideration that some state legislatures meet on a biennial basis?

Answer: While this issue has not been specifically addressed, we feel that seed consumers would continue to have some protection under existing laws and these would prove adequate until State legislatures meet to pass any additional legislation the States feel is necessary.

Question: What would be the cost of implementation of seed inspections and compliance with labeling requirements and quality standards to be assumed by the states?

Answer: The increased cost would vary by State depending upon their existing laws. While we do not know exactly what additional costs would be incurred we would hope that these costs would be minimal.

Question: Has AMS received comments on this proposal from representatives of the seed industry? What has been their position?

Answer: To date, AMS has received no official comments on our fiscal year 1989 proposal to eliminate the program.

Question: Have State Departments of Agriculture expressed approval or disapproval of this proposal?

Answer: Informal verbal comments which we have received from State Departments of Agriculture have been opposed to the proposal.

PERISHABLE AGRICULTURAL COMMODITIES ACT

Question: Will AMS be making any recommendations to amend the Perishable Commodities Act?

Answer: In conjunction with the fiscal year 1989 budget, legislation is being proposed to amend the Perishable Agricultural Commodities Act.

Question: What are these recommendations?

Answer: The proposed legislation would amend the Act to increase the statutory annual license fee ceiling from $300 to $500, the fee for each branch operation in excess of nine from $150 to $300, and the total aggregate fee from a maximum of $3,000 to $5,000.

PAYMENTS TO STATES AND POSSESSIONS

Question: The fiscal year 1989 budget proposes to eliminate the Federal share of Payments to States for marketing improvement programs. In fiscal year 1987, 19 projects in 16 States were funded through this program. Without the federal grants, do you believe that State Departments of Agriculture would continue to conduct market tests and identify new methods for product marketing as has been customary since the federal-state marketing improvement program was authorized in 1946?

Answer: If the States think the projects are worthy, we feel that sufficient funds to conduct these projects would be made available by the States, local governments or by industry groups. It has been our experience that the States have additional funds they would be willing to expend if additional Federal funding were unavailable. It is our belief that these additional State funds could be utilized to offset the loss of Federal funds if the program were eliminated.

Question: In providing payments to states for cooperatively sponsored marketing projects, has there always been a match requirement imposed?

Answer: Yes, the matching requirement was specified in the Agricultural Marketing Act of 1946 which is the enabling legislation for this program.

Question: What has been the traditional share contributed by the states?

Answer: Our legislation requires that the matching share must be at least 50 percent. However, in fiscal year 1987, the States contributed approximately 13 percent more than the Federal contribution. These contributions are generally made by State agencies or the private sector.

Question: When will fiscal year 1988 grants to states be provided?

Answer: Grants are typically awarded no earlier than April so as to allow the States ample time to submit their proposals as well as to permit us to compare and evaluate the various proposals. Subsequent grants are awarded later in the year, usually in July and September.

Question: For how many projects?

Answer: Announcement of the availability of funds went to the States in January and we are now receiving proposal requests for grant funds. It is difficult to determine at this time how many projects will be approved. Last year, we funded 19 projects in 16 States.

Question: Please specify the States that will receive grant awards and the type of projects to be approved.

Answer: Until we have had an opportunity to receive, review and evaluate the various proposals, we cannot determine how many grants will be awarded or which States will receive funds.

Question: What is the duration of grants approved for these cooperative projects with the States?

Answer: Grants are typically made for one year, although a few are extended to two year projects.

Question: Would termination of payments to States result in the disruption of any ongoing projects? If so, in which States and on what specific projects?

Answer: In most cases the termination of payments would not result in the disruption of ongoing projects. Projects that may not have been fully funded in the first year have typically been divided into discrete parts with the understanding that there is no guarantee of funding for the second year. An example of this is a project to conduct an evaluation of value determination systems for the U.S. beef cattle industry being conducted by Texas. They are conducting their studies of value differences between animals of varying yield grades on steers, with plans to include heifers this year if they are successful in obtaining funds for a second year.

Question: Has AMS ever undertaken any followup survey of the payments to States projects to determine the efficiency and benefits of these marketing projects upon their completion?

Answer: No, we have not conducted a survey of the benefit of these projects. However, we do receive final reports for most projects that provide us with a good indication of the success of the project.

Question: Are the marketing improvement programs supported through payments to States grants unique, or are they duplicative of the efforts being undertaken by State or local entities.

Answer: There may be other grant programs in different agencies but this is the only one designed to promote studies to improve agricultural and food marketing efficiencies.

ADMINISTRATIVE COSTS

Question: How many employees are currently enrolled in the Federal Employee Retirement System?

Answer: There are currently 1,038 AMS employees enrolled in the Federal Employee Retirement System.

Question: How many are expected to enroll in fiscal year 1989, and what will be the cost associate with this increase?

Answer: In fiscal year 1989 an additional 350 employees are expected to enroll at an estimated cost of approximately $1.1 million.

QUESTIONS SUBMITTED BY SENATOR COCHRAN

HVI COTTON CLASSING

Question: AMS has been converting its cotton classing operations from manual to high volume instrument (HVI) classing. What areas of the country have the greatest levels of participation? Do you expect the trend of increasing usage to continue into the future?

Answer: Automated classing is performed at the option of the producer at an additional fee of $0.50 per bale. HVI classing provides fiber quality data (strength, length uniformity, and instrument color) not available with manual classing. This additional data relates to processing efficiency and is therefore preferred by manufacturers.

Surveys are taken prior to each cotton season to determine the level of interest in instrument classing in an area. HVI classing was originally introduced in the Southwest. Texas and Oklahoma have the highest participation percentage at approximately 90% of all cotton classed.

Alabama and Georgia are now close to 90% in HVI usage. Unfortunately, the demand in North and South Carolina did not prove strong enough to continue offering HVI services in those states. HVI usage in the Mid-South has been comparatively low, at approximately 20% of cotton classed.

Interest in the Western States - California and Arizona - is so light that HVI classing is not currently offered there. These States have established a reputation for high quality cotton and do not perceive a need for the additional fiber quality information that HVI classing provides. This situation could change as general industry demand for HVI services increases. Many of the States with high demand for HVI have acquired a reputation for poorer quality cotton. HVI data can be used to refute the poor reputation of a growing area.

At its January 1987 annual meeting, the National Cotton Council endorsed the use of HVI classing to the cotton industry.

For the 1987 season, 40% of all cotton classed was done on HVI, compared to 28% for the 1986 season. We expect this trend in HVI use to continue. The significant proportional increase in HVI classing in FY 1987 occurred largely in the Southeast and to a lesser extent in the Mid-South. Next season, we expect the largest demand increase to occur in the Mid-South.

COTTON GRADE EXPANSION STUDY

Question: An amendment to the Cotton Statistics and Estimates Act required AMS to conduct a study to determine why an increasing proportion of the cotton crop is being classified as Light Spotted. Please provide information concerning the status of the report and the methodology being employed to conduct the study. An initial report is due October 1, 1988. Is the project on schedule to meet that reporting date requirement?

Answer: AMS and the Agricultural Research Service are cooperating on the study to determine why an increasing proportion of the cotton crop is being classed as Light Spotted. Samples of White and Light Spotted cotton are being analyzed chemically for terpenes, carotenes, chlorophyll, sugar and tanning--all chemical compounds which an cause discoloration in cotton lint and result in a Light Spotted classification. These analyses will be completed by July 1, 1988, in time to be included in the October 1, 1988 report. Samples were taken from an extensive study of the use of irrigation to determine whether addition of water affects lint discoloration. Samples will be classed and results analyzed in time for preparation of the report. Cotton has been left on the plant in the field and exposed to weather to determine how this exposure affects the lint color and whether the weathering causes discoloration that will result in Light Spotted classification. Samples of cotton stored in module and cotton from the same fields sent directly to the gin have been classed to determine whether module storage causes the lint discoloration to develop. The project is on track to provide a preliminary report by October 1, 1988. It may take 3 years to satisfactorily determine the causes of Light Spotted cotton and project plans are being made to continue beyond the initial year.

COTTON CLASSING FEES

Question. In 1987 Congress passed an amendment (Uniform Cotton Classing Fees Act of 1987) to the Cotton Statistics and Estimates Act which authorized USDA to utilize a new formula to establish the annual cotton classing fee. Has the new system worked effectively and have the additional funds generated by the new fee structure proved adequate for AMS to offer efficient and accurate classing services to the cotton industry?

Answer. The Uniform Classing Fees Act of 1987 has permitted AMS to establish classing fees at levels which, in 1987, recovered the costs of providing an efficient and accurate cotton classing service to the cotton industry. Because of the larger than expected cotton crop in 1987, AMS will increase its operating reserves for this program at the end of FY 1988 to approximately $3,800,000, or about 19 percent of FY 1988 expenditures. AMS expects to class 13,588,000 bales in FY 1988.

Question. Please provide for the record a table showing income and expenses for the 1987/88 season.

[The information follows:]

Cotton Classing Income and Expenses
1987-88 Crop Year Expenses

REVENUE	
Carryover from FY 1987	$ 2,329,954
Classing Fees	18,033,208
Sample Sales	3,497,029
Other Income	500,000
Total Available Funds	$24,360,191
COSTS	
Total Projected Expenses	$20,480,206
Carryover to Fiscal Year 1989	$ 3,879,985

Question. Based on current projections, do you expect the 1988/89 classing fees to decline?

Answer. Based on current projections, AMS expects 1988/89 classing fees to decline significantly. At present, we are proposing to reduce the base fee by 17 cents per sample, from $1.20 in 1987/88 to $1.03 in 1988/89.

Question. Do you project any significant capital expenditure for new buildings or equipment in the next three years?

Answer. We do not project any significant increases in expenditures for building during the next 3 years. Expenditures for equipment will increase if an increasing portion of the crop is classed by High Volume Instruments (HVI). In the 1987/88 crop year, producers requested HVI classing on approximately 40 percent of the samples submitted. We expect this percentage to increase during the next few years, which will necessitate the purchase of additional instruments. The additional user fees charged for HVI classing will recover expenditures for any extra instruments needed.

Question. AMS collects fees for classing cotton and has authority to invest any surplus in insured, interest-bearing accounts. Are there other sources of income derived from the cotton classing program, such as sale of standards, samples, etc. which sometimes result in temporary surpluses but which cannot be invested in insured, interest-bearing accounts? If so, is this an administrative decision or does USDA lack legislative authority to invest these funds? If authority to invest income generated by these activities was granted, approximately how much interest would be earned and how might these funds be used?

Answer. AMS has investment authority only for funds collected under Cotton Statistics and Estimates Act programs. We also provide classing services, standards, calibration cottons, etc., to the industry under the authority of the Cotton Standards act. We do not have investment authority for funds collected under this program. If we had investment authority for Cotton Standards Act funds, it is estimated that approximately $32,000 in interest could have been earned.

QUESTIONS SUBMITTED BY SENATOR MCCLURE

FEDERAL SEED ACT

Question: The Federal Seed Act is described as a truth-in-labeling law which regulates agricultural and vegetable seeds moving in interstate commerce. You state that the States can be expected to amend their programs to deal with these seed shipments. Interstate commerce comes under the purview of federal legislation and responsibility.

How would the states legislate these regulations and why should states fund interstate seed labeling?

Answer: The Department feels that the States have adequate seed regulatory authority under their existing State laws to regulate seed without the specific regulation of seed in interstate commerce. Seed moving in interstate commerce will eventually come to rest in a State and be subject to the State law. However, States may want to amend their laws to include provisions equivalent to the provisions of Title V of the Federal Seed Act, which prohibits sale or advertisement by variety name of non-certified seed on which a plant variety protection certificate has been issued.

WHOLESALE MARKET DEVELOPMENT AND PAYMENTS TO STATES

Question: While I recognize these are different program areas, I have aggregated these areas because the same arguments pro and con exist for each. You seem to believe that this form of financial support only benefits local and private sectors. I can understand the point that the local or regional suppliers and producers will benefit from new or improved markets. In the case of payments to states, their cooperation with funding is required. I believe an alternative perspective was the basis for the original program. The national consumer also benefits from new products or lower cost alternatives to other products. What has changed to invalidate the national consumer's benefits from new products or lower cost alternative products?

Answer: Work currently done under the wholesale market development program is geared primarily towards improvement of local or State market facilities. Similarly, many of the cooperatively funded activities undertaken in the Federal State Marketing Improvement program are also directed at local or regional marketing problems. Because these projects are local in nature, we believe the States or private entities should fund these projects rather than the Federal government.

SUBCOMMITTEE RECESS

Senator **Burdick**. The committee would like very much to thank all of those here today, and also the people representing the Department of Agriculture. Our next hearing will be held at 10 a.m., Tuesday, March 15, in this same room. At that time the committee will hear from representatives of the Agricultural Stabilization and Conservation Service, the Soil Conservation Service, and the Commodity Credit Corporation.

Until then, the subcommittee stands in recess.

[Whereupon, at 11:31 a.m., Thursday, March 3, the subcommittee was recessed, to reconvene at 10 a.m., Tuesday, March 15.]

AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1989

TUESDAY, MARCH 15, 1988

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:04 a.m. in room SD–138, Dirksen Senate Office Building, Hon. Quentin N. Burdick (chairman) presiding.

Present: Senators Burdick, Sasser, McClure, and Specter.

DEPARTMENT OF AGRICULTURE

STATEMENT OF RICHARD GOLDBERG, ACTING UNDER SECRETARY FOR INTERNATIONAL AFFAIRS AND COMMODITY PROGRAMS

ACCOMPANIED BY STEPHEN B. DEWHURST, BUDGET OFFICER

AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE

STATEMENT OF MILTON J. HERTZ, ADMINISTRATOR

ACCOMPANIED BY DAVID C. HALL, DIRECTOR, BUDGET DIVISION

OPENING REMARKS

Senator BURDICK. Good morning, ladies and gentlemen. Today, we will be hearing testimony from representatives of the Agricultural Stabilization and Conservation Service and the Soil Conservation Service regarding conservation programs as well as programs operated through the Commodity Credit Corporation.

With us today is Mr. Richard Goldberg, Acting Under Secretary for International Affairs and Commodity Programs and a resident of the great state of North Dakota; Milton Hertz, Administrator of ASCS, also a great representative of North Dakota; Wilson Scaling, Chief of the Soil Conservation Service; and Stephen Dewhurst, Budget Officer for the Department of Agriculture.

No two agencies were more significantly affected by the 1985 farm bill than ASCS and SCS. The farm programs were changed significantly and the conservation title of that act instigated major new programs.

I believe that these two agencies have done a commendable job of implementing these programs and carrying out the wishes of Congress, and I want to congratulate you for your diligent work in that regard. The budget that you are presenting today is notable for several reasons.

First of all, the costs of the farm programs continue to decrease. The estimated cost in 1989 of just over $17 billion is a significant reduction from the $26 billion price in fiscal year 1986.

We are also beginning to see the magnitude of the Conservation Reserve Program. With 23 million acres currently entered into the program, the budget request for the CRP is increasing by $733 million this year, to a total estimate of $1.9 billion for fiscal year 1989.

The budget is also notable for its attempt once again to eliminate the conservation cost-share programs, as well as reduce the water surveying, planning, and construction activities.

Congress has never seen fit to eliminate these programs because it has never been demonstrated that the Conservation Reserve Program will take up the slack that these other important programs would leave if they were eliminated.

With this brief summary, I will leave the further explanation of the budget and programs to you.

Again, welcome to the committee. I look forward to discussing these programs with you.

I believe we have the Senator from Tennessee and he is recognized.

STATEMENT OF SENATOR SASSER

Senator SASSER. Thank you, Mr. Chairman. I just want to make a couple of brief observations.

First, I believe the two agencies before us today have the most bearing on the day-to-day activities of farmers, especially since the implementation of the 1985 farm bill. These agencies, ASCS and SCS, help administer the guidelines under which most farms operate. And it is very important that ASCS and the Soil Conservation Service have competent individuals, especially at the local level, to help translate current legislation into sound farm policy.

I might say, Mr. Chairman, in my home state of Tennessee soil erosion continues to be one of the most significant problems that our farmers face. We have in Tennessee some of the most serious soil erosion problems in all of the 50 states. Now implementation of conservation plans are moving along well, but I do not believe we should slow our effort after the 1990 deadline for having soil conservation programs in place. And I plan to play a large part in ensuring that further education in soil conservation programs is part of the 1990 farm bill.

I also believe it is very important that we make plans to keep a large percentage of these lands placed in the Conservation Reserve Program out of crop production.

We initially experienced some problems in relating the programs of the 1985 farm bill to our farmers, but it appears that we passed that stage. We must now ensure that ASCS and SCS have the manpower and the expertise to continue not only education of the farmers but also implemention of the best programs possible.

I thank you, Mr. Chairman. And I have a couple of questions I would like to submit for the record. As you know, we have got four appropriation subcommittees meeting simultaneously this morning and I am going to have to get to the Energy and Water Subcommittee. Thank you, Mr. Chairman.

Senator BURDICK. I will see that your questions are propounded, and thank you for your remarks.

I would like to call on, first, an old friend, Dick Goldberg from Fargo. Proceed as you wish.

STATEMENT OF RICHARD GOLDBERG

Mr. GOLDBERG. Thank you, Mr. Chairman, and good morning.

Mr. Chairman, I am very pleased to be here before your subcommittee this morning. I have with me Mr. Milton Hertz, the Administrator for ASCS, and Mr. Wilson Scaling, the Chief of the Soil Conservation Service. Both of these gentlemen, Mr. Chairman, have prepared remarks, which they will submit for the record, and they will discuss with you in more detail the 1989 budget for their respective agencies.

Before we get to their testimony, Mr. Chairman, I would like to make a few observations, if I may.

As you know, Secretary Lyng appeared before your committee last month and described the recent improvement in the agricultural economy. It is attributable, in large part, to the provisions of the 1985 farm bill.

Evidence of it can be seen in the improved export performance that has been going on, and the outlook is brighter for next year than this year. Surplus commodity stocks are declining and we have had a strengthening of farm prices.

As a direct result of these positive developments, CCC's spending in price and farm income support programs is now falling. CCC net outlays are projected to reach $17.7 billion in fiscal year 1988, which is $8.1 billion below the record level established in fiscal year 1986.

For fiscal year 1989, we expect a further decline in net outlays down to roughly $17 billion.

While the level of farm program costs remains much higher than we would prefer, the trend in CCC's spending is expected to continue downward as provisions of the Food Security Act become fully effective and our farm program may become more market oriented.

Last year, Mr. Chairman, you remember Congress increased the ceiling on CCC borrowing authority to $30 billion. That is an improvement from our point of view. We appreciate the action that was taken, and it will help avoid the unnecessary interruptions that CCC has experienced in recent years with respect to running out of money for our price support operations.

In the 1989 budget proposals we are requesting a current, indefinite appropriation, which has now been authorized. This action, coupled with the increase in CCC's borrowing authority, should eliminate the possibility of CCC payment disruption in 1989 and in future years.

In the soil and water conservation area, our proposal requests a level of funding which is necessary to implement the provisions authorized in the conservation title of the Food Security Act of 1985. The overall program level for 1989 is estimated at $2.8 billion, up from $1.5 billion in 1987.

The largest component of this funding is for the fourth year of the Conservation Reserve Program. CRP is administered by ASCS, while SCS provides technical assistance for identifying the highly erodible land and preparing adequate conservation plans.

The Soil Conservation Service is also providing the technical assistance to identify wetlands affected by "swampbuster" provisions, and highly erodible croplands needing additional conservation in order to remain eligible for the commodity price and income support programs.

In addition, our fiscal year 1989 budget includes proposals to reform the watershed programs and to manage the Resource Conservation and Development Program to achieve important rural development objectives.

As in previous years, many of the conservation cost-share programs are not being proposed for funding for fiscal policy reasons.

Mr. Chairman, that concludes my remarks. And at this time, I would like to turn over the remarks to Mr. Hertz.

Senator BURDICK. On one condition, that I get a chance to ask you a question or two before you leave.

Mr. GOLDBERG. I am going to stay here a little while, Mr. Chairman. Or you can go ahead now if you want to.

SUNFLOWER OIL PROGRAM

Senator BURDICK. All right. I want to ask you this question.

I understand that you had direct responsibility for the sunflower purchases that are mandated by the fiscal year 1988 appropriations act. The importance of this program to the sunflower growers is significant and the results should be extremely beneficial.

The intent of the legislation is to use the sunflower oil that you purchase as a type of export enhancement or bonus to promote our oil sunflower products abroad.

Are you planning to implement this and how soon can we expect some positive results?

Mr. GOLDBERG. Mr. Chairman, the so-called SOAP program—your program that was initiated last year—that is the program that you are referring to.

The Foreign Agricultural Service and our Office of General Counsel are in the process of working out the details as far as the rules and regulations that have to be implemented, and it has progressed quite a ways. It is working its way through the process.

I cannot give you an exact date, Mr. Chairman, but we expect that the Department will fully implement and carry out that program within this year.

Senator BURDICK. Well, thank you very much.

Now you can leave if you wish.

Mr. Hertz.

STATEMENT OF MILTON HERTZ

Mr. HERTZ. Thank you, Mr. Chairman. I appreciate the opportunity to be here today and discuss the budget request for ASCS.

I would like to summarize briefly the proposals outlined in my prepared statement and to submit it for the record.

Administrative operations in ASCS offices have been severely strained since the 1985 Food Security Act was enacted. We have experienced record participation in CCC programs, and in fiscal year 1987, our county office staff-year use was the highest since 1970, totaling nearly 18,000 staff-years.

We anticipate similar workload activity for fiscal year 1988. During this same period we have devoted major personnel resources to implement our state and county office automation project, commonly referred to as SCOAP.

We will realize increased efficiencies from this automation effort in fiscal year 1989. Due also to anticipated reduced loan activity and a lower level of program participation, we anticipate a reduction of approximately 1,600 county office staff-years in fiscal year 1989. In federal offices, we also expect to see some workload savings associated with SCOAP.

For fiscal year 1989, we are requesting CCC transfer authority of $580 million for ASCS salaries and expenses.

COMMODITY PROGRAM OUTLAYS

For commodity programs, fiscal year 1987 was the first full year that the Food Security Act was in effect. Net CCC outlays, which mainly reflected 1986-crop spending, totaled $22.4 billion, down substantially from the record $25.8 billion spend in fiscal year 1986.

In response to the act, marketing and production decisions began reflecting greater market orientation. Price support rates during the 1986 marketing year were lower, exports began to increase significantly, and stocks began to decline.

For fiscal year 1988, total CCC net outlays are expected to decrease by $4.7 billion to $17.7 billion, due mainly to improvements in the supply/use situations for wheat, feed grains, and cotton.

In fiscal year 1989, we project that CCC outlays will further decline to a level of $17.1 billion, mainly due to smaller feed grain outlays and reduced dairy program costs. Budget savings attributable to the Reconciliation Act of 1987 are incorporated into these net outlay projections.

As you know, Mr. Chairman, CCC has experienced a number of funding emergencies in recent years when its available borrowing authority fell to such low levels that the Corporation had to suspend payments.

Because of the enacted increase in the CCC borrowing authority ceiling to $30 billion, combined with the projected decline in net outlays, we do not anticipate similar shutdowns in fiscal year 1988.

We appreciate this committee's help in getting this much-needed capital increase. We believe, however, that the current, indefinite appropriation authorized in the 1987 Budget Reconciliation Act is needed to address the longer term financial requirements of farm price support legislation.

For fiscal year 1989, the budget proposes a current, indefinite appropriation for reimbursement of realized losses and elimination of the CCC operating expenses, appropriation enacted this year, which we believe imposes unnecessary administrative restraints on entitlement spending that is mandated by farm program legislation.

Since CCC funding needs can change drastically over short periods of time, a very real potential for future program disruption exists if this type of appropriation, with present spending authorizations, is continued.

CONSERVATION RESERVE

We also appreciate the flexibility shown by this committee in appropriating for fiscal year 1988 the amount of the updated USDA estimate for the Conservation Reserve Program.

As you know, signups held after the original budget submission and revised policy decisions regarding how annual payments will be made can greatly affect the appropriation needs for this program. In the case of fiscal year 1988, these changes acted to lower the appropriation needs for CRP.

Cumulative CRP enrollment through the fifth signup, held in July 1987, is approximately 23 million acres, of which 14.6 million, or about 64 percent, are commodity base acres. Included in the total enrollment were 7.1 million 1988-crop acres entered in advance. However, final data for the fifth signup indicates that total acres enrolled for the crop-year 1988 are 6.4 million.

During fiscal year 1988, at least two signup periods will be held. The first took place February 1 to 19, and the second will be scheduled for the summer. The eligibility criteria were expanded for the February signup to provide incentives for improvement of the nation's water quality and for increased tree plantings.

The budget projects enrollment of approximately 5.9 million additional 1988-crop acres, which would bring total participation for the 1986 through 1988 crop-years to about 29 million acres. The sixth signup bids are being analyzed, and an announcement of the acceptable rental rates for each county should be made by mid-March. Preliminary information indicates, however, that bids were received on 4.5 million acres. The final bid and enrollment data will be available in early May.

This process is taking significantly more time than previous signups because the county ASCS committees have the responsibility for ensuring that rental rates under CRP contracts are not in excess of prevailing local rental rates for an acre of comparable land, as required in the 1988 appropriations act.

For fiscal year 1989, the appropriation request of $1.9 billion would provide $660 million for cost sharing on approximately 12 million 1989-crop acres, $8 million for technical assistance, and $1.2 billion for the majority of the $1.5 billion in annual rental payments estimated to be due in fiscal year 1989.

Section 1234(d) of the Food Security Act provides the authority to make rental payments in cash or commodities or some combination thereof, and the budget proposes that the remaining rental payments due in fiscal year 1989, an estimated $297 million, be paid with commodity certificates.

OTHER CONSERVATION PROGRAMS

In view of the critical need to reduce federal spending, no funding is proposed in fiscal year 1989 for the Agricultural Conservation Program, the Colorado River Basin Salinity Control Program, the Forestry Incentives Program, the Water Bank Program, the Emergency Conservation Program, or the Dairy Indemnity Program. Fiscal year 1988 allocations have been issued to states. Existing contracts will be honored.

PREPARED STATEMENT

This concludes my remarks, Mr. Chairman, and I would be happy to respond to questions.

Senator BURDICK. Thank you very much.

[The statement follows:]

STATEMENT OF MILTON HERTZ

Mr. Chairman and Members of the Subcommittee, I am pleased to appear before you today to discuss the fiscal year 1989 budget request for the Agricultural Stabilization and Conservation Service. First I would like to summarize our proposals for the ASCS Salaries and Expenses Account and the Commodity Credit Corporation, then highlight our requests for the conservation programs.

Administrative Support

Mr. Chairman, administrative operations at all levels of ASCS, but particularly in county offices, have been severely strained since the Food Security Act of 1985 and its amendments were enacted. During this period we have experienced record producer participation in CCC agricultural programs, and in FY 1987 our county office staff-year use was the highest since 1970, totaling 17,842 staff-years. We anticipate similar workload activity for FY 1988. During this same period we have also devoted major personnel resources to fully implement our State and County Office Automation Project, commonly referred to as SCOAP. In FY 1989, however, we anticipate some workload decreases. Provisions of the Food Security Act will continue to improve the farm economy, leading to reduced loan activity and a somewhat lower level of program participation, reducing staff-year requirements in the county offices. In addition, SCOAP should be fully implemented by the end of FY 1988, resulting in more efficient county operations. Total FY 1989 county office staff-year needs are projected to decrease by approximately 1,600 staff-years. In Federal offices, we also expect to see workload savings associated with SCOAP, since most of the significant software applications will be operational by the end of FY 1988.

For FY 1989 we are requesting a CCC transfer of $580 million for ASCS Salaries and Expenses. This amount would enable ASCS to continue to administer the mandated activities of the Food Security Act of 1985 in addition to changes in farm program activities mandated by the Budget Reconciliation Act of 1987.

Commodity Credit Corporation
Commodity Program Outlays

FY 1987 was the first full fiscal year in which the Food Security Act of 1985 was in effect for commodity programs. Net CCC outlays in fiscal year 1987, which mainly reflect 1986-crop spending, totalled $22.4 billion, down substantially from the record $25.8 billion spent in fiscal year 1986. In response to the 1985 Act, marketing and production decisions began to reflect greater market orientation. Price support rates were lower than those for the 1985 crops. With lower price levels for U.S. commodities, exports during the 1986 marketing year began to increase and stocks began to decline. Corn exports rose 21 percent, while wheat exports were up 10 percent. Also, foreign purchases of U.S. cotton increased by 250 percent, and rice shipments rose 45 percent.

For fiscal year 1988, total CCC net outlays are expected to continue their downward trend, decreasing to $17.7 billion. This $4.7 billion decline in outlays from 1987 is expected to result mainly from improvements in the supply/use situations for wheat, feed grains and cotton. In the 1987 marketing year, exports of grains and cotton are continuing to strengthen. Strong domestic demand also has been an important factor in reducing stocks, particularly for corn and cotton. As a result, CCC costs associated with these crops will be down.

CCC net outlays are expected to decline further in fiscal year 1989 to $17.1 billion, mainly due to projections of smaller feed grain outlays caused by continued strong demand and smaller surplus stocks. Dairy program costs are also projected to decrease as the lower support rate raises consumption and reduces net CCC purchases of surplus dairy products.

Budget Reconciliation Act Changes

The Omnibus Budget Reconciliation Act of 1987 legislated certain changes in the commodity programs administered by the Agricultural Stabilization and Conservation Service. Among the major changes are: a 1.4-percent decrease in the 1988 and 1989 target prices; adjustments to 1988- and 1989-crop loan rates; a 10-percent paid diversion program for 1988- and 1989-crop feed grains;.a reduction in outlays for non-target price commodities; and a reduction in CCC storage, handling, and transportation costs over the next two years. In addition, the Reconciliation Act requires advance deficiency payments on the 1988 through 1990 crops and provides for a so-called "0/92" program for wheat and feed grains, which eliminates planting of the program crop as a requirement to receive deficiency payments. Finally, the 1987 Act tightens up the definition of "persons" who are entitled to program payments under the commodity programs. Budget savings attributable to the provisions of the Reconciliation Act are incorporated into our CCC net outlay projections.

CCC Financing

As you know, Mr. Chairman, CCC has experienced a number of funding emergencies in recent years when its available borrowing authority fell to such low levels that the Corporation had to suspend payments until additional funding could be appropriated. We do not anticipate similar shutdowns in fiscal year 1988. The enacted increase in the CCC borrowing authority ceiling to $30 billion and declining net outlays will combine to make a payment suspension extremely unlikely. We appreciate this Committee's help in getting this much-needed capital increase.

While the increase in borrowing authority will help to alleviate cash flow crises, we believe it must be coupled with the current, indefinite appropriation authorized in the 1987 Budget Reconciliation Act in order to address the longer term financing requirements of farm price support legislation. For FY 1989, the President's Budget proposes a current, indefinite appropriation for reimbursement of realized losses, and elimination of the CCC operating expenses appropriation enacted this year, which we believe imposes unnecessary administrative restraints on entitlement spending that is mandated by farm program legislation. Since CCC funding needs can change drastically over short periods of time, a very real potential for future program disruption exists if this type of appropriation, with preset spending authorizations, is continued.

Conservation Reserve

We very much appreciate the flexibility shown by this Committee, Mr. Chairman, in appropriating for fiscal year 1988 the amount of the updated USDA estimate for the Conservation Reserve Program. As you know, signups held subsequent to the original budget submission, as well as policy decisions regarding how annual rental payments will be made, can greatly affect the appropriation needs for this program. In the case of FY 1988, these changes acted to lower the appropriation needs for the program.

Approximately $1.066 billion of the $1.131 billion appropriated in 1988 will be used to share the cost of establishing cover, largely for the estimated 13 million 1988-crop acres expected to be enrolled by the end of FY 1988. Other FY 1988 cover cost expenditures are for amounts due farmers who did not request payments in fiscal year 1987 for 1987-crop acreage. As directed by the appropriation language, $45.24 million has been transferred to the Soil Conservation Service for carrying out the conservation provisions of the Food Security Act.

The balance of $19.76 million will be used to fund SCS and Forest Service technical assistance specifically for the CRP. No funds were needed for annual rental payments due in FY 1988 since these payments were made entirely in CCC commodity certificates early in the fiscal year.

Cumulative enrollment through the fifth signup, held in July 1987, is approximately 23 million acres, of which 14.6 million, or about 64 percent, are commodity base acres. Included in the total enrollment are 7.1 million 1988-crop acres entered in advance.

During FY 1988, at least two signup periods will be held: the first took place February 1 - 19, and the second will be scheduled for the summer. The Budget projects enrollment of approximately 5.9 million additional 1988-crop acres, which would bring total participation for the 1986 through 1988 crop-years to about 29 million acres. Sixth signup bids are being analyzed, and an announcement of the maximum acceptable bid rates for each county should be made by mid-March. Preliminary information indicates, however, that bids were received on 4.5 million acres. The final bid and enrollment data will be available in early May. This process is taking significantly more time than previous signups because the county ASC committees have the responsibility for ensuring that rental rates under the CRP contracts are not in excess of the prevailing local rental rates for an acre of comparable land as required in the 1988 Appropriations Act. It is anticipated that some counties in the Great Plains States will reach the 25-percent limitation on enrollment of cropland, so that no further bids under the CRP will be accepted in those counties. To date only 42 counties have requested exception to this rule and 40 were approved.

The Conservation Reserve Program eligibility criteria were expanded for the February signup to provide incentives for increased tree plantings and for the improvement of the nation's water quality. Specifically, filter strips -- cropland areas 66-99 feet wide next to streams, lakes and estuaries -- were eligible for the CRP even if the soil erosion criteria were not met. This change permits farmers to use CRP enrollment as a cost-effective option in establishing permanent cover to control nonpoint source pollution of valuable water resources.

To attract increased tree acreage, the erosion criterion was changed from 3T to 2T -- that is, two times rather than three times the normal soil loss tolerance -- for producers opting to plant trees on the designated areas, and the highly erodible predominance criterion has been changed from two-thirds to one-third of the field.

The FY 1989 appropriation request of $1.864 billion would provide $660 million for cost-sharing on approximately 12 million 1989-crop acres, $8 million for technical assistance, and $1.196 billion for the majority of the $1.493 billion in annual rental payments estimated to be due in FY 1989. Section 1234(d) of the Food Security Act provides the authority to make rental payments in cash or commodities or some combination thereof, and the Budget proposes that the remaining rental payments due in FY 1989, an estimated $297 million, be paid with commodity certificates.

Other Conservation Programs

In view of the critical need to reduce Federal spending, no funding is proposed in FY 1989 for the Agricultural Conservation Program, the Colorado River Basin Salinity Control Program, the Forestry Incentives Program, the Water Bank Program, or the Emergency Conservation Program.

In FY 1988, the Agricultural Conservation Program will continue to focus on solving critical conservation problems and meeting water quality goals. Instead of targeting to selected geographical areas, the program will be targeted nationwide to the most cost-effective practices by using data from the Conservation Reporting and Evaluation System. FY 1988 allocations have been issued to States. The 1988 program is expected to save 39.5 million tons of soil and conserve 568,000 acre-feet of water.

Under the Colorado River Basin Salinity Control Program in FY 1988, ASCS will use $1.8 million for the Grand Valley, Colorado, project and $2.3 million for the Uinta Basin, Utah, project to continue installation of on-farm measures to reduce salinity levels in the Colorado River. In addition, $575 thousand will be used to begin implementation of the Lower Gunnison project in Colorado and the Big Sandy project in Wyoming. Finally, $220 thousand will be provided for pre-implementation technical assistance at McElmo Creek, Colorado, and for planning at Price-San Rafael, Utah. In accordance with the Colorado River Basin Salinity Control Act of 1974, as amended, the Basin States will reimburse the Treasury from hydro-electric power revenues 30 percent of ASCS cost-share costs, thereby reducing the Federal investment to 49 percent of the project at the maximum cost-share payment of 70 percent.

Dairy Indemnity Program

In FY 1988, available carryover funds will be used to complete payment of two claims from dairy producers in Missouri and Oklahoma for milk and milk products still off the market due to heptachlor contamination in 1986. All producers are expected to be back on the market by April, 1988.

USDA is working with producers in Arkansas to recover losses from various insurance carriers and from feed companies responsible for the 1986 contamination incident. Also, in December, 1987, a settlement was reached with Hawaiian producers in which USDA recovered $5.3 million of the $6.3 million paid by ASCS under this program for Hawaiian claims in 1982.

This concludes my prepared remarks. I will be happy to respond to any questions.

SOIL CONSERVATION SERVICE

STATEMENT OF WILSON SCALING, CHIEF

ACCOMPANIED BY:
MANLY S. WILDER, ASSOCIATE CHIEF
GALEN S. BRIDGE, DEPUTY CHIEF FOR PROGRAMS
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BUDGET REQUEST

Senator BURDICK. Mr. Scaling.

Mr. SCALING. Thank you, Mr. Chairman. I am glad to be here with you today.

I would like to make a few remarks and submit my prepared statement for the record

We in SCS believe that the total 1989 budget request of $602.8 million for SCS programs is a positive recommendation that would continue the substantial effort this nation has been making in soil erosion control, water resources protection, and rural development. This budget request recognizes both the enormous effort now under way to implement the Conservation Title of the 1985 Food Security Act, and the significant continuing demand and support for ongoing SCS conservation programs.

As in prior years, the budget continues to emphasize the technical assistance role of the federal conservation programs. Funding provided in 1988 for implementing the Food Security Act—for the technical assistance and the soil surveys—would be maintained in 1989. This would enable us to meet these urgent responsibilities for protecting our critical soil and water resources. At the same time we are doing everything possible to continue other conservation program activities at the state and local levels.

We are seeing good progress toward meeting the Food Security Act workload.

As of January 1, 1988, we had completed about 80 percent of the highly erodible land determinations and 25 percent of the planning. We believe that with the help of the entire conservation partnership and some improvements in our own productivity, we will be able to meet the 1990 planning deadline, provided that producers recognize their responsibilities and do not wait until the last minute to ask for assistance.

The budget request also seeks to strengthen further the state and local role in planning and implementing conservation activities. To this end, continued funding is requested for the Resource Conservation and Development Program, recognizing its key role in promoting interagency cooperation and pooling of resources from all sources to help revitalize our rural communities and conserve soil and water resources. Likewise, a continuing, although reduced, water resources program is proposed.

A number of legislative and administrative changes are being proposed which are intended to improve the effectiveness of these important programs, and also to ensure that our federal program dollars are allocated to the highest priority needs, especially during these times of constrained budgets.

These proposals are described more specifically in my prepared testimony and in our budget justification materials.

We look forward to the opportunity for some open discussion on these issues. The budget does continue proposals made for the past several years to terminate conservation cost-sharing programs, including the Great Plains Conservation Program, reflecting continued concerns with the overall level of federal spending.

In closing, Mr. Chairman, we are encouraged by past support for the SCS technical role in soil and water conservation. This budget is our best estimate of SCS needs based on balancing resource conservation needs and budgetary constraints.

Thank you, Mr. Chairman.

[The statement and biographical sketches follow:]

STATEMENT OF WILSON SCALING

Mr. Chairman and members of the Committee, it is a privilege to be here today to discuss our 1989 budget proposals for the Soil Conservation Service. We have been optimistic, yet prudent, in developing these proposals. The funding requested continues the substantial effort this Nation has been making in soil erosion control, water resource protection, and rural development. In addition to the federal dollars we are spending, there is an increasing level of state, local, and private-sector contributions to the conservation effort.

FY 1989 BUDGET REQUEST

The total budget request for Soil Conservation Service activities is $602.8 million for fiscal year 1989. Although this is $73.8 million less than the 1988 Appropriation level, it is an increase of $126 million above the President's budget request for FY 1988. Gone are many of the past recommendations to terminate ongoing financial and technical assistance programs. This more positive recommendation recognizes both the enormous effort now underway to implement the Conservation Title of the 1985 Food Security Act and the significant continuing demand, and support, for ongoing SCS conservation programs.

Other important national conservation priorities would be addressed, including water quality issues and support for state, local, and private-sector initiatives in resource conservation and rural development.

As in prior years, the budget continues to emphasize the technical assistance role of Federal conservation programs. Accordingly, the requested level for 1989 would permit us to maintain current operations for our conservation technical assistance, soil survey, snow survey, and plant materials programs. Increases totaling $11.3 million are requested to maintain the buying power of these important programs. The additional funds requested are to cover mandatory cost increases related to the January 1988 pay raise and the new Federal Employee Retirement System, and for increased operating costs for nonsalary support items. The additional $45 million, provided in 1988 as a transfer from the Conservation Reserve Program for implementing the Food Security Act, is continued as part of the 1989 request for conservation technical assistance. The funds requested will enable us to meet these urgent responsibilities for protecting our critical soil and water resources. We are doing everything possible to continue other program activities at the state and local levels while we respond to the new Conservation Provisions.

We believe that this budget recommendation will put us in a strong position in the years ahead to help farmers maintain the conservation now going on the land under the Food Security Act. And, we will be in an equally strong position to respond to public concerns on other conservation issues such as the offsite effects of erosion and water quality. As we look down the road, we foresee considerable demand for SCS technical assistance on water quality issues. We believe that our 1988 update of USDA's National Conservation Program will bear us out on this.

STATUS OF FOOD SECURITY ACT WORK

Implementing the Conservation Title of the 1985 Food Security Act remains our top priority in the Soil Conservation Service. We are now in the peak workload years for implementing these provisions, with major efforts largely devoted to implementing the conservation compliance requirements.

We estimate that our field staff will be contacting about 1.2 million farmers between now and the end of 1989 to verify existing conservation systems and to develop new conservation plans. We know from our National Resources Inventory that about 29 percent of the highly erodible land is adequately treated and that another 11 percent has been contracted under the Conservation Reserve Program through the 5th program sign-up. That leaves us with 60 percent, or about 100 million acres, that needs to be treated by the end of 1994, if all these farmers participate in USDA programs.

As of January 1, 1988, we estimate that 80 percent of the highly erodible land determinations and about 25 percent of the planning has been done. Our nationwide goal is to complete 90 percent of the highly erodible land determinations and 65 percent of the planning in calendar year 1988. We've stepped up our soil survey program to meet the demand for highly erodible land determinations. Mapping has been completed on about 90 percent of the cropland and potential cropland subject to the FSA provisions. About 23 million acres of eligible lands have gone into the Conservation Reserve Program, saving about 467 million tons of erosion annually. This financial incentive is reducing erosion at about 20 tons per acre, increasing the effectiveness of USDA assistance devoted to erosion control.

A number of states also are gearing up for a high workload because of the swampbuster provision. I am expecting this swampbuster activity to pick up as producers better understand the requirements.

Do we have the resources to help get all this conservation on the ground? With the help of the entire conservation partnership, I think we can. SCS and district people have been resourceful in balancing their workloads. Computer automation has been a big help. In many parts of the country, traditional one-on-one planning just is not enough to meet the 1989 deadline, so, many conservation districts are turning to group planning.

Our workload predictions hinge on how well producers with highly erodible land understand that they have choices, obligations, and deadlines. We must continue an intensive public-awareness program, for we do not want a single farmer who needs SCS help and who wants our help to go without that help. Many producers have gotten the word. In some areas, we have found that many farmers want their plan developed and put in place immediately. We are doing our best to meet these demands.

MEETING OTHER NATIONAL, STATE, AND LOCAL PRIORITIES

Recognizing the need for greater accountability and cost effectiveness in federal activities, we seek to further strengthen the state and local role in planning and implementing conservation activities. USDA will continue to focus its assistance on the most critical resource problems because the need for restraint in federal spending requires that maximum benefits be achieved with available funds. The conservation partnership has always been our greatest strength in getting conservation measures on the ground. This budget seeks to build on this strength.

For the first time in a number of years, we are pleased to present to the Committee a funding request for a full-fledged Resource Conservation and Development Program. RC&D areas focus the efforts of conservation districts and other public and private groups on self reliance in finding local funds and technical expertise. They also set priorities, making it easier to determine where Federal assistance can do the most good for the money. Overall, the RC&D program is a key part of the Department's rural development initiative. The $25 million requested for this program will promote interagency cooperation and pooling of Federal resources from all sources to help revitalize our rural communities and conserve soil and water resources.

Likewise, for the first time in several years, we are proposing a continuing, although a reduced, water resources program. A single appropriation would fund all the water resource related activities of the SCS, including River Basin studies and watershed project planning and construction, at $116 million, or about 62 percent of the 1988 level. This will require that we be more selective in the allocation of Federal resources for water resource projects. The budget requests that we be permitted to calculate the benefits of water projects free of price and income support incentives. The 1988 appropriation language regarding the method of computing normalized prices for agricultural commodities in evaluating Federal water resources development projects is proposed to be discontinued in FY 1989. Legislative changes are proposed to authorize local or sponsor cost-sharing for flood control projects and to establish a requirement that the agricultural benefit component of SCS projects be at least 20 percent. We look forward to the opportunity for some open discussions with the Congress on these issues as we seek to negotiate some improvements in the delivery of these important programs.

As in past years, the budget includes proposals to terminate USDA conservation cost-sharing programs, including the Great Plains Conservation Program. This decision was not easily made. However, we are still faced with the need to constrain federal spending.

In summary, we are encouraged by past support of the SCS technical role in soil and water conservation. The proposed budget for 1989 is our best estimate of SCS needs based on balancing these resource conservation needs and budgetary constraints. We ask your support.

I would like to provide for the record tables showing a summary of the SCS budget and of funds appropriated by state and local governments for soil conservation programs for fiscal year 1988.

This concludes my prepared statement, Mr. Chairman. With the help of my staff, I will be happy to answer your questions.

SOIL CONSERVATION SERVICE
FY 1989 Budget
(In thousands of dollars)

	FY 1987 Actual	FY 1988 Enacted	FY 1989 Pay Costs and FERS	FY 1989 Program Changes	FY 1989 Total Request
CONSERVATION OPERATIONS:					
1. Technical Assistance a/	$311,986	$320,718	$+3,804	$+51,484	$376,006
Transfer from CCC/CRP	20,000	45,240	--	-45,240	--
Subtotal, Technical Assistance	331,986	365,958	+3,804	+6,244	376,006
2. Soil Surveys	58,156	67,717	+486	+440	68,643
3. Snow Surveys & Water Forecasting	4,976	5,379	+26	+89	5,494
4. Operation of Plant Materials Centers	4,553	4,856	+37	+172	5,065
Total, Conservation Operations	399,671	443,910	+4,353	+6,945	455,208
WATER RESOURCE MANAGEMENT AND PROTECTION:					
1. River Basin Surveys and Investigations	12,051	12,051	--	-2,242	9,809
2. Watershed Planning and Construction:					
a. Planning	9,939	9,905	--	-1,738	8,167
b. Construction:					
(1) Technical assistance	71,419	66,845	--	-9,371	57,474
(2) Financial assistance for construction	89,411	94,019	--	-56,089	37,930
Subtotal, Watershed Planning & Construction	170,769	170,769	--	-67,198	103,571
3. Emergency watershed protection operations	14,755	3,500	--	-1,000	2,500
4. Loan Services	255	255	--	-135	120
Total, Water Resource Management and Protection	197,830	186,575	--	-70,575	116,000
GREAT PLAINS CONSERVATION PROGRAM					
1. Cost-sharing assistance	11,413	11,559	--	-11,559	--
2. Cost-share programming and contract admin.	2,900	2,853	--	-929	1,924
3. Technical Assistance	6,161	6,062	--	-1,973	4,089
Total, Great Plains Conservation Program	20,474	20,474	--	-14,461	6,013 b/
RESOURCE CONSERVATION AND DEVELOPMENT:					
1. Technical Assistance	17,743	18,094	--	+1,766	19,860
2. Financial Assistance	7,202	6,966	--	-1,866	5,100
3. Loan Services	75	60	--	--	60
Total, Resource Conservation and Development	25,020	25,120	--	-100	25,020
Subtotal, SCS Appropriated funds	642,995	676,079	+4,353	-78,191	602,241
RURAL ABANDONED MINE PROGRAM	(9,400)	(15,000)	--	(-15,000)	--
TRUST FUNDS	293	560	--	--	560
TOTAL, SOIL CONSERVATION SERVICE	643,288	676,639	+4,353	-78,191	602,801
Ceiling Staff Years	12,395	14,177	--	--	12,395

a/ Includes funding for Inventory and Monitoring, and Resource Appraisal and Program Development activities.

b/ Program termination costs

FUNDS APPROPRIATED BY STATE AND LOCAL GOVERNMENTS FOR CONSERVATION PROGRAMS FISCAL YEAR 1988

STATE	STATE GOVERNMENT	LOCAL GOVERNMENT	TOTAL
Alaska	165,760	11,450	177,210
Alabama	1,205,889	712,958	1,918,847
Arkansas	869,629	836,967	1,706,596
Arizona	1,393,500	13,061,184	14,454,684
California	4,113,000	1,536,000	5,649,000
Colorado	772,602	454,510	1,227,112
Connecticut	2,850,850	896,200	3,747,050
Delaware	3,453,400	654,480	4,107,880
Florida	6,427,625	1,959,675	8,387,300
Georgia	2,136,000	2,840,000	4,976,000
Hawaii	2,535,572	1,178,404	3,713,976
Iowa	11,057,172	1,083,351	12,140,523
Idaho	6,792,100	126,985	6,919,085
Illinois	11,976,247	4,646,036	16,622,283
Indiana	6,164,062	2,416,374	8,580,436
Kansas	3,765,102	4,368,621	8,133,723
Kentucky	5,189,600	2,062,200	7,251,800
Louisiana	3,519,000	210,000	3,729,000
Massachusetts	419,000	179,000	598,000
Maryland	7,007,202	2,111,828	9,119,030
Maine	274,020	447,051	721,071
Michigan	7,549,500	1,510,800	9,060,300
Minnesota	32,188,561	34,524,521	66,713,082
Missouri	20,149,952	242,290	20,392,242
Mississippi	322,103	3,220,404	3,542,507
Montana	1,761,000	1,065,000	2,826,000
North Carolina	8,377,642	9,380,170	17,757,812
North Dakota	697,398	1,326,200	2,023,598
Nebraska	4,131,053	22,042,268	26,173,321
New Hampshire	84,919	222,185	307,104
New Jersey	2,446,000	3,376,333	5,822,333
New Mexico	559,571	547,710	1,107,281
Nevada	13,001,400	749,492	13,750,892
New York	14,974,602	4,218,675	19,193,277
Ohio	5,967,471	4,134,032	10,101,503
Oklahoma	3,317,550	1,720,094	5,037,644
Oregon	376,811	1,120,331	1,497,142
Pennsylvania	743,000	115,000	858,000
Puerto Rico	3,923,433	790,874	4,714,307
Rhode Island	258,250	17,016	275,266
South Carolina	2,845,300	1,780,140	4,625,440
South Dakota	326,457	728,617	1,055,074
Tennessee	1,239,193	1,343,623	2,582,816
Texas	3,421,263	3,415,660	6,836,923
Utah	57,462,900	224,650	57,687,550
Virginia	7,164,018	3,513,500	10,677,518
Vermont	404,900	37,570	442,470
Washington	2,284,347	1,309,830	3,594,177
Wisconsin	6,261,214	4,720,883	10,982,097
West Virginia	1,252,321	2,100,791	3,353,112
Wyoming	604,500	236,500	841,000
TOTAL	286,183,961	151,528,433	437,712,394

BIOGRAPHICAL SKETCHES

MANLY S. WILDER
ASSOCIATE CHIEF

Mr. Wilder is a native of Nash County, North Carolina. He received his B.S. Degree in Agriculture, from North Carolina State University and a Master of Science in Administration, from George Washington University.

Mr. Wilder began his career with the Soil Conservation Service in June 1961, as a Soil Conservationist Student Trainee in Nashville, North Carolina. He served as the District Conservationist in Snow Hill and Goldsboro, North Carolina from 1962-1966.

In July 1967, he transferred to the National Headquarters in Washington, D.C. He worked as an Employee Relations specialist becoming the Chief of that branch in September, 1973. In July 1974 he became Chief of the Career Development and Staffing Branch.

He was transferred to Harrisburg, Pennsylvania in 1976 as the Deputy State Conservationist and was later promoted to State Conservationist of Virginia. He has also served as an Assistant Chief for the South. On January 3, 1988, Mr. Wilder was named the Associate Chief for the Agency.

JUDITH C. PALENSKY

Judith C. Palensky, a native of Norfolk, Virginia, attended Old Dominion University and received her Bachelor of Arts degree in 1969 from Houghton College, Houghton, New York, with concentrations in English Literature and Business Administration.

She joined the Department of Agriculture in 1970 as a budget analyst for Departmental Administration. Beginning in 1976, Mrs. Palensky served in the Office of Operations and Finance as the Budget Officer for the Departmental staff offices. She joined the Soil Conservation Service in 1979 and is currently serving as Acting Director of the Budget Planning and Analysis Staff.

Mrs. Palensky and her husband are residents of Davidsonville, Maryland.

SWAMPBUSTER VIOLATIONS

Senator BURDICK. Thank you, Mr. Scaling.

Mr. Hertz, I will ask you a few questions first.

Nationwide, I am advised that only about five violations of the swampbuster provisions have been identified to date. Is that correct?

Mr. HERTZ. Mr. Chairman, at the present time, we are looking at about 295 potential violations. This is nationwide, and possibly 14 of those are in North Dakota.

Senator BURDICK. You are looking at them? There has been no final determination?

Mr. HERTZ. No; that is right. They are either in the appeals process or in the investigative process.

Senator BURDICK. Do you have any information on the total number of acres that have been identified as wetlands on these farms?

Mr. HERTZ. I don't have that with me, Mr. Chairman.

Senator BURDICK. I am concerned that investigations into potential violations and the appeals of these investigations may take a very long time, leaving the farmers without benefits during this time. How long after a potential violation is reported or discovered does it take to begin an investigation? How long does it take to complete the investigation?

Mr. HERTZ. Well, Mr. Chairman, I think it would depend on the amount of information that would have to be put together to support allegations of a violation of either the sodbuster or the swampbuster, or for the farmer to support his claim that he was not in violation.

We provide for the appeals process through ASCS. Once a farmer has been notified that he is in violation, he has 15 days to appeal that determination to the county committee. And after they make that decision, if it is an adverse ruling, he has further appeal rights through the state committee and, ultimately, through our appeals staff here in Washington.

Again, depending on the amount of information that has to be put together, or how well the appeal is structured, these appeals can take up to 6 months.

Senator BURDICK. What I am naturally concerned about is whether this process can be completed in most cases in time to seed the crop.

Mr. HERTZ. In most cases, I would think that the ultimate decision would be made at the county level. But if the decision that the county makes is adverse to that appellant and he wants to appeal further, then it is going to cost him some time. If the county committee finds in his favor, he is eligible right away.

Senator BURDICK. Has the Department considered instituting an appeals procedure that has definite time limits, such as 30 days for initial appeal at the county level, 15 to the state level, and 15 at the national level, with a presumption of no violation if these given deadlines are not met?

Mr. HERTZ. Well, Mr. Chairman, we do provide for timeframes. After a county committee has passed judgment, then there is a 15-day time period for the appeal to get to the state. Our state committees meet once a month, and, well, if the timing were right, it could be very close to that 15-day timeframe.

Senator BURDICK. After an appeal comes to the county, how soon does the county have to act?

Mr. HERTZ. Once they receive it they would act at their next meeting. The county committee also meets once a month.

Senator BURDICK. What is the time limit, 24 hours, 1 week? How long?

Mr. HERTZ. Well, if the appeal were received by the county committee the day before their meeting, it would be within 24 hours. If they receive it the day after their meeting, it could be close to 30 days.

I might point out, Mr. Chairman, we did a survey on our appeals as they were initiated at the county level, using 1986 data, I believe. Nationwide, we had about 75,000 appeals, and less than 2 percent of those appeals came to Washington. So the adjudication of most of these problems was taken care of at the local level, and that would be the speediest way. Probably only the most severe cases are the ones that come to Washington.

Senator Burdick. And we have that same proficiency in North Dakota, don't we?

Mr. Hertz. I would hope so, sir.

WETLAND DETERMINATIONS

Senator Burdick. Mr. Scaling, I would like at this point to ask you a question or two about this subject.

Mr. Scaling. Yes, sir.

Senator Burdick. Under the swampbuster provision, I assume that SCS had been working overtime to make the wetland determinations.

Mr. Scaling. Yes, sir.

Senator Burdick. I think that is a correct assumption, isn't it?

Mr. Scaling. Yes, sir, it is.

Senator Burdick. And to what degree are the farmers agreeing with or contesting your wetland determinations?

Mr. Scaling. Do you want to answer that, Galen? This is Galen Bridge, my deputy for programs, who is our expert on that particular subject.

Senator Burdick. That is fine.

Mr. Bridge. Mr. Chairman, we have made about 46,000 wetland determinations nationwide involving about 1.3 million acres. I think the best record we have on this is in North Dakota—in the Red River Valley—where we have made about 8,000 determinations involving 400,000 acres.

Recent meetings with these producers indicate that there is a high acceptance of the determinations. I believe Mr. Myers, the Deputy Secretary, sent you a report recently that indicated that we met with several groups of producers numbering 125 to 150. We had very limited objections to the wetland determinations that were made in the valley. This is the most recent information that we have available.

Senator Burdick. According to the press reports, they say that there is a very small percentage of violations found in those first eight counties.

Mr. Bridge. That is correct.

Senator Burdick. And that 90 percent are grading properly and legally.

Mr. Bridge. That is correct.

Senator Burdick. What percentage of farms in North Dakota, as well as nationwide, have had wetlands identified on their farms?

Mr. Scaling. We don't know, but we can certainly get the answer and get it back to you at a later date, sir.

Senator Burdick. Well, if you could we would appreciate it.

Mr. Scaling. Yes, sir; that will be done.

[The information follows:]

We are monitoring only the number of farms that have wetlands identified. We have not kept track of the number of farms on which an inventory was made but no wetland was identified. Nationally we have identified wetlands on about 4 percent of the farms that are presently participating in the USDA programs. In North Dakota we have identified wetlands on about 18 percent of the North Dakota farms.

STAFFING IN FIELD OFFICES

Senator BURDICK. I am still concerned about the level of staffing in our SCS field offices. Do you believe that there is adequate staffing for SCS traditional conservation duties, as well as those imposed by the 1985 farm bill, and imposed by this swampbuster problem?

Mr. SCALING. Naturally, the Food Security Act is the driving force behind our agency right now. But we are still doing everything we can to continue the ongoing programs.

Senator BURDICK. Are you keeping up?

Mr. SCALING. We are doing our best, sir, and right now, I think we are keeping up.

TRAINING MATERIALS FOR WETLAND DETERMINATIONS

Senator BURDICK. I understand that SCS has provided a wetland training kit for SCS state office staffs. Do you have one of those kits available?

Mr. BRIDGE. We have given out a variety of information to each of the state office staffs that concern training for wetland determinations. The complete Food Security Act training package consists of a student workbook, eight detailed lesson plans, and approximately 200 slides. A copy of the wetlands portion of this material will be provided to you.

Senator BURDICK. Thank you.

CALLING OF RESERVE GRAIN

Mr. Hertz, I am going to return to you again in another area.

USDA's announcement that it is calling in wheat and feedgrains from the farmer-owned reserve has created quite a stir among our farmers. On one hand, they see this as a positive sign that we are reducing our stocks. On the other, they are concerned that much of the grain will find its way into commercial storage and just sit there where the storage costs are higher. Can you offer an assurance that this grain will move quickly into the market?

Mr. HERTZ. Well, Mr. Chairman, given the transportation problems we seem to be hearing about, to guarantee that it will move into the market very quickly would be a problem. But we believe that given the need to have that grain to fill our export commitments, that we need to have it moving so that it can get into the market channels.

Senator BURDICK. Do you move any grain at this time without the expectation of putting it into the export market just for the purpose of storage?

Mr. HERTZ. I'm sorry, would we be moving any grain just to get it into commercial storage?

Senator BURDICK. That is correct.

Mr. HERTZ. No, sir.

One point I would like to make, Mr. Chairman, is that in the crop years 1985 and 1986, we ran into a critical storage situation nationwide, and we used every possible means to make available all storage space, which included a lot of farm space, and some of the decisions we made then were to extend 9-month loans and to extend reserve contracts that at that time the law said had to be settled, if you will, after a 5-year period.

The main reason we did that was because we didn't want all the emergency and temporary storage grain getting piled on the ground, creating eyesores around the countryside. We utilized every last inch of space.

We want to get back on a normal track now that we aren't in a storage mode, and we want to have this grain find its way to the market.

GRAIN TRANSPORTATION OUTLOOK

Senator BURDICK. In the last few days I have had reports from farmers in North Dakota that no cars were available for shipping. Do you know what the situation is out in the Midwest?

Mr. HERTZ. We understand that there is a critical shortage of hopper cars in the upper Midwest. We have done a survey in a cross section of North Dakota, and we have found that warehouse or elevator storage space is available in most cases. On the other hand, most warehouses are waiting for cars, because they would like to move grain for which they have exchanged certificates through our catalog exchanges. They have cash grain on hand and they are having a hard time moving it.

Senator BURDICK. Do you expect any alleviation of the problem in the near future?

Mr. HERTZ. Representatives of Burlington Northern say that they have about 60 percent of their fleet committed to the bid process that warehouses are now having to use, and their commitment seems to be sincere that they will get hopper cars there. I have no way of knowing whether that will happen or not.

Senator BURDICK. Well, to repeat, you are just hauling all grain that you have an export possibility for at the present. You are not just moving grain from the country elevator into the big warehouses?

CORN RESERVES

Mr. HERTZ. No; we are moving grain that we have contracted for under either the farmer-owned loan reserve or extended 9-month contracts and that needs to be moved into the market channels.

I might point out too, Mr. Chairman, that we have not made the decision on corn relative to the reserves and 1-year loan extensions, or special producer storage programs. There has been no announcement made on that.

Senator BURDICK. We are not a corn state, as such, and I am not familiar with corn. Are we getting any problems in that area?

Mr. HERTZ. Well, as I said, we have not made the announcement. Corn is different in that the available supplies are much, much higher than the tight wheat supplies.

COMMODITY CERTIFICATES

Senator BURDICK. Producer groups who view this movement situation have made some suggestions. One suggestion is that USDA should find a more orderly way to move this grain whether or not it be disruptive of our farmers. One suggestion is to increase the face value by 20 percent of certificates used for the purpose of redeeming farmer-owned reserve loans. Does that have merit?

Mr. HERTZ. I believe, Mr. Chairman, my first concern is that the certificate has a dollar value that is used as a payment for a program participant. This payment is based on earnings that a farmer can get from participating. I would think that if we changed that face value it would distort the earnings that he really is entitled to receive.

Senator BURDICK. In other words, you don't approve of the suggestion?

Mr. HERTZ. Well, I wouldn't say that there is no possibility of working out something like that, but I don't think we could change the value of the certificate.

COUNTY DIFFERENTIALS

Senator BURDICK. Increasing the county differentials for wheat to reflect the increased transportation cost due to rail or car shortages, is that a possibility?

Mr. HERTZ. Yes; at any time that we have a widening basis because of transportation costs or any other market factors that would cause a change in the differential between a terminal market and a local market, yes, we would adjust those differentials.

Senator BURDICK. What about increasing county differentials for wheat for those loans that will not be extended—what about that possibility?

Mr. HERTZ. If they reflected transportation costs and other associated changes that we just mentioned, yes. If it means just to change the differential to make the PIK-and-roll work, then no, because we want to follow the market. And I believe that if we were to change the differential or start pricing our commodities in our county offices in a way other than what the market trend dictates, we would be taking all the integrity out of it. I don't think we would want to do that.

RESERVE LOAN EXTENSIONS

Senator BURDICK. One last suggestion is to reclassify maturing farmer-owned reserve loans as special producer starter loans for the purpose of extending their date of maturity an additional 12 months.

Mr. HERTZ. We would have the flexibility to extend them for 12 months.

Senator BURDICK. When you have some time, will you reflect on that and see if there is any possibility of doing something in that area?

Mr. Hertz. Well, I believe that the Secretary has made the decision that these grains with loans that are maturing should follow into market channels. And I believe that is our position at this time.

Senator Burdick. Well, maybe I will write to your boss and remind him that he has these tools to work with if he would use them.

DELAYED GRAIN DELIVERY

Mr. Hertz. Yes.

I might make one other comment, Mr. Chairman. If the transportation problems persist and grain cannot be delivered, you know, there would not be a penalty to the farmer or that storing person. And if the problem should persist past a certain point in time, why, the storage payments would kick back in. So a farmer is somewhat protected that way.

And we realize that going into spring's work now with road restrictions and elevators tending to be service elevators rather than merchandising elevators for cleaning grain, and fertilizer and those kinds of activities, that delivering grain this time of the year may be slowed down. We will be flexible and work with the producers to accommodate them.

Senator Burdick. Well, that is good news to the farmer.

Mr. Hertz. Yes.

CONSERVATION RESERVE PROGRAM

Senator Burdick. I would like to ask a question too about the Conservation Reserve Program. The continuing resolution for fiscal year 1988 included a provision which indicated that the bids may not exceed the prevailing local rental rates for an acre of comparable land. How are you enforcing this provision?

Mr. Hertz. Mr. Chairman, we instructed our county committees to compare the local prevailing rental to the maximum acceptable rental rate [MARR] for the bidding pool as announced by the Secretary. If the local rate were lower, they were to establish the local MARR accordingly. The county committee was also required to review each bid as it was received in this last signup and certify that it is not above the local prevailing rental rate for comparable land. And I believe the preliminary information that we have at this point in time is that 320 counties in the United States—seven in North Dakota—adjusted MARR's downward to recognize prevailing local rental rates.

Senator Burdick. The fact that the bids have been adjusted downward, does that indicate that fewer people will be applying or not, or more people?

Mr. Hertz. I would think, Mr. Chairman, that if a county adjusted its bid acceptance level down, there would be some bids that would not be accepted.

Senator Burdick. A very important member of the committee has just entered the committee room, so I am going to yield to him for the next few minutes.

Senator McClure. I am looking around to see who you are talking about. [Laughter.]

BARLEY DEFICIENCY PAYMENT CALCULATION

I have just two or three areas that I would like to get into if I may, Mr. Chairman.

Mr. Hertz, as you know, I am concerned about the method that is used in determining the barley deficiency payment rate, and I have written to you about that. I wonder if you could again, for the committee, explain how that 5-month average is determined.

Mr. HERTZ. Senator McClure, the 5-month average is determined on a nationwide weighted formula.

Senator MCCLURE. And what is the source of the raw data that goes into that computation?

Mr. HERTZ. I believe it is the terminal markets scattered throughout the United States.

Senator MCCLURE. Is it done at the elevator terminal level?

Mr. HERTZ. Yes.

Senator MCCLURE. One of the concerns to me is that there is information closer to the point of original sale at the county ASCS level that might give us more current data than would be at the terminal level, more pertinent to what is actually happening out there between the farmer and the marketplace rather than further down the chain in the marketplace.

Second, and a more serious question, is that there are at least two markets for barley, at least in Idaho, and I think it is probably true elsewhere. One is malting barley and the other is the feed grain barley, or nonmalting markets, because barley does move into several different markets. But the malting barley I look at particularly because it is a very separate market and a much higher priced market. And when the malting barley is averaged into the rest of the market, it increases the market price rather dramatically.

If my figures are correct, the 5-month average price for malting barley is $2.16 compared to the all-barley price of $1.86. Am I approximately correct in those figures?

Mr. HERTZ. Approximately, yes, sir.

Senator MCCLURE. The deficiency payment, of course, will go down dramatically if you take malting barley as a part of the average. Isn't that correct?

Mr. HERTZ. Yes, sir.

Senator MCCLURE. Is there a possibility that we could get the ASCS to calculate the barley price without averaging in the malting barley segment of that market? Because nearly all of the malting barley is contracted in advance. It doesn't move in the same markets at all.

Mr. HERTZ. Well, Senator McClure, I am not totally familiar with how the markets operate or how malting barley would be used in relation to the feed barley. I know from a volume standpoint, the malting barley would be much, much less. But we can take a look at it. And what I would like to do is outline to you how we do calculate the price and then take a look at whether——

Senator McClure. I would very much appreciate that, because, as I say, I know in my state what the practice is. The major brewing companies go out, and they contract acreage in advance and it is grown for that specific market under a contract that is almost totally removed from the market movements in the general market, absent these contracts.

If you could take a look at that, it could make a substantial difference.

One of the concerns we have is that the price is not averaged until July and there will be no deficiency payments until after that is done, and there is time lag as well. And I wonder if you could address that as you are looking at that and respond with your comments.

Mr. Hertz. Well, the first pricing on the 5-month marketing year is done and those payments are made in December.

Senator McClure. Yes.

Mr. Hertz. And so it would be at the end of the 12-month marketing year.

And I should point out too, Senator McClure, that the National Agricultural Statistics Service are the folks who do these calculations for us. But I will be in touch with them and we will check it out.

Senator McClure. All right, if you would.

[Clerk's note: See submitted questions for additional information.]

DROUGHT RELIEF

Senator McClure. I am also concerned about a problem that is developing in the Western United States. It is not in this program, but in the drought that is becoming so evident. No budget request was made for any kind of relief in that area. And yet it seems to me that we are going to have that question. All of the snow surveys indicate that the average in Idaho is about 40 percent below average. Last year, it was perhaps that or a little worse. Stream flow is down. Average reservoir storage is only 54 percent of capacity. In most snow courses, we will be lucky if we have 60 percent or 70 percent of normal stream flow. And in those areas we are going to have a problem.

We already have one in southwestern Idaho, where ordinary water deliveries to the farm is around 3 acre-feet per acre. Last year, they got a little over 1½ acre-feet per acre—a little less than 1½ acre-feet per acre, about one-half the normal deliveries. And they have already been notifying the farmers this year to expect less than one-half acre-foot per acre. And if that is the delivery that they are going to have, that is a real disaster for a large segment of the state. And yet there is no money being requested, or no money has been requested, to meet that situation. And I just wonder how you are going to do it.

Mr. Hertz. Senator McClure, in cases of a severe drought, we do have emergency conservation funds that would be made available to move water to livestock and permanent plantings. We also have the ACP funds that have been allocated to the state which could be used for drought measures involving water utilization.

Senator McClure. But no money has been requested above the—well, let me put it this way. There was some carryover money in some of those areas and, therefore, no budget request at all for some of that.

Mr. Hertz. Yes, sir; and it has been our experience in the past that when there has been a major disaster that is not covered by federal crop insurance, an emergency supplemental appropriation has followed to take care of that emergency.

Senator McClure. I am really concerned about it. And I guess I am asking this question only because it is now obvious we have a major problem, a major problem that is as predictable as the fact that the sun will come up in the East tomorrow morning.

Mr. Hertz. One program available this year, sir, which I suggest would help a lot, is the zero-92 program.

Senator McClure. Yes.

Mr. Hertz. Even though we are looking to limit that to approximately 50 percent of the base acreage being retired, if it is used in a disaster context there would be no limit on the amount of acreage that could be involved in that program.

Senator McClure. There are no county limits?

Mr. Hertz. That is correct.

If as we go down the road there is a disaster, a farm can enter into the zero-92 program, and the base limit would not apply.

Senator McClure. I am concerned. I will be working with you, and I am sure you will be working with the state offices in trying to make certain that we do have some kind of a handle on that and we can do something with it. But I am extremely concerned because that certainly is a problem that we are going to have to deal with.

Mr. Hertz. We appreciate your concern, Senator. And I know that there are a couple of sister states out there that are probably going to be in a similiar situation. And we have our ASCS folks out there keeping us informed as much as they can so that we can respond.

ECONOMIC IMPACT OF CRP

Senator McClure. Which leads into the other question of what do we do with the CRP program where you have high levels for participation? What happens to dependent communities? Most of the economic surveys that I have seen done to this time do a pretty good job of tracking what happens to the economics of the farm units, but there has been very little done with respect to what happens to the farming communities that are dependent upon that farmland.

Now we all say, well, we will put in CRP, and if we ever need production, it is easier to move it back out. But if all of the support infrastructure in those communities has gone, it is going to be a lot harder to move back, let alone the impact that we have right now.

I have requested that some studies be done with respect to the community impact of high levels of CRP acreage. Is that a matter of concern to you?

Mr. HERTZ. It certainly is. In our procedures, we say that no more than 25 percent of the farmland in an individual county can be in this program. But we have seen too that even at that 25-percent level, it is having an adverse economic impact on some of the rural communities.

SCS STAFFING LEVEL

Senator McCLURE. Mr. Scaling, as we move toward the implementation of the highly erodible acres provisions, we are going to see an awful lot of demand for farm conservation plans. Are you adequately staffed and prepared to meet all those requirements for a 1990 date?

Mr. SCALING. Yes, sir.

Senator McCLURE. And you do not anticipate any problem coming up with your side of the cooperation with the farmers in developing conservation plans to meet that timetable. Is that correct?

Mr. SCALING. Senator McClure, I feel sure that we can have a plan for every farmer who wants one.

Senator McCLURE. Well, they are going to want one. In one of my areas in Idaho, from 35 to 40 percent of the land is now classified as highly erodible under current standards.

Mr. SCALING. Yes, sir.

Senator McCLURE. If you have to have a farm plan for 35 to 40 percent of the entire acreage in the Palouse area of Idaho and Washington, you are going to have an awful lot of work to do.

Mr. SCALING. We can do it, sir.

Senator McCLURE. Then I would suggest if you can do it that easily you must have been overstaffed already. [Laughter.]

Mr. SCALING. No, sir; we were not overstaffed. We are just working harder now. [Laughter.]

Senator McCLURE. I know you weren't overstaffed. That is the reason I said it exactly the way I did, because you have been cut back on personnel year upon year upon year upon year to the point where you were crying that you simply could not function any more.

Mr. SCALING. We are improving our productivity. I am certain that we can meet the 1990 deadline. In fiscal year 1988, we received a $45 million transfer from the Conservation Reserve Program for conservation activities related to the Food Security Act. We have requested these additional funds as a direct appropriation in fiscal year 1989.

We have a strong partnership out there between a lot of different people. We have the private sector involved in parts of the country now, and I am satisfied that we can meet the 1990 deadline on conservation plans.

FSA WORKLOAD

Senator McCLURE. Well, let me ask a question that you may think is argumentative, and it comes pretty close to that, I guess. How close did you come to your 1987 plans? Did your projections on what you would accomplish match with what you did accomplish?

Mr. SCALING. I am going to let Mr. Bridge answer that since he is in charge of that program.

Senator McClure. Sure.

Mr. Bridge. I believe we were entirely satisfied with the progress we made in fiscal year 1987, in terms of making highly erodible land determinations. This is critical to the program. We have about 85 percent of those now completed. That defines who is going to have to have a plan.

We currently have completed about 25 percent of the total conservation plans needed in the country. We have a goal of having 65 percent of the job completed by the end of this calendar year. We fully anticipate that we are going to be able to meet it.

I think it would be unfair not to say that this is coming at a cost. We are trading off some things, particularly in areas such as the state of Idaho and other areas where highly erodible land is not evenly distributed. Some activities on irrigation and water management, such as some of the water quality activities, are taking a back seat. At the same time, we think the Food Security Act is so critical to the agency and the public that we are putting full priority on that, and anticipate that we are going to be able to complete the job.

Senator McClure. And that is a thoughtful answer, and I appreciate it, but it is also a real problem. If we cannot get that done in a sensitive way we are going to have a massive problem in farm country, as we try to match the requirements of one statute with the capacity of your agency.

Mr. Bridge. Yes; let me add to that. We are tracking this very carefully. Every 3 months we do a national summary of our progress. We will continue to do that. The minute we see that we may be in trouble, we will work with the administration and some other folks to see if there is something we can do about that. At this point we are comfortable with what we are doing.

Senator McClure. Mr. Chairman, I wonder if I might yield to the Senator from Pennsylvania for a unanimous consent request.

Senator Burdick. Sure.

CRP PARTICIPATION IN PENNSYLVANIA

Senator Specter. I thank my distinguished colleague. I have a letter which I have addressed to Deputy Secretary Myers and I would like to make a copy available to you, Mr. Hertz, regarding the Conservation Reserve Program in Pennsylvania for a response. And I do not want to take any time to do it now because I have interrupted my distinguished colleage from Idaho, but I have a commitment at 11 and have to leave. But I just wanted to put that on the record at this time.

I thank the Senator from Idaho and I thank the chairman.

[The letter follows:]

LETTER FROM SENATOR SPECTER

MARCH 15, 1988.

Hon. PETER MYERS,
Deputy Secretary of Agriculture,
U.S. Department of Agriculture

DEAR SECRETARY MYERS: I am writing regarding Pennsylvania's role in the Conservation Reserve Program [CRP].

As you may know, the number of Pennsylvania farmers in the CRP program has increased in the past year as a result of USDA's implementation of water quality eligibility and the establishment of a new Chesapeake Bay bid pool in Pennsylvania. I am advised that, despite these encouraging developments, the level of CRP participation in Pennsylvania remains below the national average.

It is my sense that the Department of Agriculture could facilitate increased CRP participation in Pennsylvania by raising the rental rate cap in Pennsylvania's new Chesapeake Bay CRP bid pool. These higher rates would help bring farmers in the Chesapeake Bay pool into CRP and bring Pennsylvania's participation closer to the national average of 35 to 40 percent of eligible lands. The ultimate result would be improved water quality in the Chesapeake Bay.

Thank you for your prompt attention to this important matter.

Sincerely,

ARLEN SPECTER.

SUGAR PROGRAM

Senator MCCLURE. Thank you, Senator.

Mr. Chairman, I only have just a very brief period in addition, and I will not burden you unduly, I hope.

The budget summary report states that "No changes in price supports are proposed, other than for sugar programs." It is my understanding that the sugar program is self-supporting and does not cost the government anything. If this is true, I fail to see how the proposal will help the budget deficit, which is the usual reason for these reductions. What is the nature of the administration's proposal and the reasons for such a proposal?

Mr. HERTZ. Senator McClure, I would like to defer to my colleagues in the Foreign Agricultural Service and the Office of the Under Secretary to respond to that question.

Senator MCCLURE. I am concerned because, again, if our information is correct, it does not match the usual reasons. And if it does not match the usual reasons, I would like to know what the reasons are.

I would like also to know what the net cost of the sugar program over the last 3 years is. If you could provide that for the record, please.

Mr. HERTZ. Yes, sir.

[The information follows:]

COMMODITY CREDIT CORPORATION

NET REALIZED GAIN OR LOSS ON SUGAR OPERATIONS
(in thousands of dollars)

ITEM	FY 1986 Actual	FY 1987 Actual	FY 1988 Estimate	TOTAL
Cost of Sales	13,864	169,708	(24,574)	158,998
- Sales Proceeds & Other Recoveries	18,162	46,211	15,590	79,963
= Net Gain (-) or Loss on Sales	(4,298)	123,497	(40,164)	79,035
+ Storage & Handling	6,246	3,581	1,132	10,959
+ Transportation	0	0	83	83
+ Domestic Donations	0	0	0	0
= Net Gain (-) or Loss on Inventory Operations	1,948	127,078	(38,949)	90,077
+ Sugar Support Payments	0	0	0	0
+ Sugar Bankruptcy Compensation	17,488	2	0	17,490
+ Miscellaneous Expenses	2	(164)	0	(162)
= Total Realized Gain (-) or Loss	$19,438	$126,916	($38,949)	107,405

Note: FY 86-88 operations reflect the disposition of 862 million pounds of sugar that had been forfeited in FY 85 and FY86. This consisted of 256 million pounds of 1984 crop beet sugar and 607 million pounds of 1984 crop cane sugar.

Senator McClure. Mr. Chairman, I have some other questions which I will ask to be submitted for response in writing.

Senator Burdick. Sure.

Senator McClure. And I wonder if we could get unanimous consent that questions to be submitted by Senator Kasten be included in the record.

Senator Burdick. Certainly.

Senator McClure. I thank you, Mr. Chairman.

Senator Burdick. I would like to ask the Senator from Idaho, do you have sugar beets back there?

Senator McClure. Yes, sir.

Senator Burdick. A good variety?

Senator McClure. A good variety, good yields, good crop, and good income. Good farmers, I might add.

Senator Burdick. We raise a few ourselves.

Senator McClure. Yes; I know that.

CONSERVATION RESERVE PROGRAM

Senator Burdick. Back to you, Mr. Hertz. You just completed the signup for the Conservation Reserve Program, and your testimony indicates that the maximum acceptable bid rates for each county would be made by mid-March. Have you made these county announcements yet?

Mr. Hertz. Yes; we did. I believe last week we sent the acceptable rental rate levels, determined by the Secretary, to each individual county, and this week county committees are meeting and performing their responsibilities in response to the requirement in the continuing resolution.

Senator Burdick. What do they show?

Mr. Hertz. Well, I mentioned earlier that 320 counties in the United States had set the maximum acceptable rental rate lower than the Secretary had proposed. And at this point in time we do not have the final report back as to the total number of acres that would be accepted under this last signup.

Senator Burdick. Do you think the present program will attract enough land in the program to satisfy that it is working properly?

Mr. Hertz. I believe, Mr. Chairman, at this point we feel very pleased with the progress that we have made. But I think that as we work toward the goal of 40 to 45 million acres, the attractiveness of our own commodity programs is going to be one of our biggest competitors. And I think too that some of the land that is most attractive for entering into the conservation reserve is already in the reserve. We are going to be looking at better land coming in from this point, and it will make it more difficult.

SUBMITTED QUESTIONS

Senator Burdick. Well, thank you very much. I want to thank you, gentlemen, for your testimony here this morning. Senators Sasser, Cochran, Hatfield, Bumpers, Kasten, McClure, Grassley, and myself will submit more questions to you for the record.

Mr. HERTZ. And we will be happy to respond to them, Mr. Chairman.

[The following questions were not asked at the hearing but were submitted for response for the record:]

AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE

QUESTIONS SUBMITTED BY SENATOR BURDICK

SWAMPBUSTER

Question: You have informed me that there are no planned changes to Form AD-1026. I think it would be helpful to give examples of activities that should be reported. I am concerned that without examples, the form does not provide adequate notice for farmers. For instance, should farmers answer "yes" to the questions on the form if all they are doing is cleaning an existing drain?

Answer: ASCS is in the process of amending operating procedures for sodbuster and swampbuster, including examples of how to handle maintenance requests. We anticipate that these clarifications will be available to State and county offices by the middle of May.

FY 1988 APPROPRIATION LANGUAGE

Question: In your statement, you indicate that the method of appropriation for fiscal year 1988 imposes unnecessary administrative restraints on entitlement spending. Could you please elaborate on these administrative restraints?

Answer: The enacted appropriation language for FY 1988 provides for CCC operating expenses based on seventeen preset spending authorizations and allows up to 7 percent of funds made available in one spending category to be transferred to any other category. This appropriation method, however, does not sufficiently recognize either the timing or the fluctuation of CCC outlays and receipts. For example, with commodities eligible for deficiency payments, season average prices often change due to weather and market conditions which could, in turn, result in deficiency payments significantly different from the preset deficiency payment spending authorization. If payments are higher than anticipated, program administration changes and method of payment decisions based solely on the need to comply with the spending authorization may be necessary. Furthermore, the 7 percent transfer authority is well below the historical variance in budget estimates as compared to actual performance for most of the major spending categories and, therefore, will likely not fully compensate in cases where the final outlay exceeds the preset authorization. Congress recognized the volatility of price support operations and the need to provide flexibility in farm program administration when it established a CCC financing mechanism more than fifty years ago, combining borrowing authority from the Treasury with reimbursement for CCC's realized losses. In order to restore this needed flexibility, we are proposing in the FY 1989 Budget to replace this operating expenses appropriation with the current indefinite appropriation for reimbursement of realized losses already authorized, but not yet enacted by the Congress. In the meanwhile, a new system for tracking CCC outlays and some accounting system changes have been required.

Question: Have you had to change your entire method of accounting in order to administer this appropriation?

Answer: Operationally, the implementation of the FY 1988 language did require creation of a new management information system and modifications to the existing CCC account structure for tracking CCC outlays by program activity. New accounting entries have had to be developed and automated, and new reporting concepts to Treasury developed. Should CCC again be in a marginal fund availability situation, the administrative burden at all levels of ASCS will intensify.

Question: Are you anticipating any problems with funding any of the CCC Programs because of how this appropriation is worded? If so, what are they and how can they be alleviated?

Answer: We are not anticipating any problems funding CCC programs in FY 1988 because CCC has several other funding sources which it can utilize if individual spending authorizations are exceeded. These include $4 billion of available borrowing authority at the start of fiscal year 1988, a $5 billion increase in borrowing authority from $25 billion to $30 billion, and incoming program receipts. However, a very real potential for future program disruption and shutdowns exists should CCC again be in the chronic deficient funding situation characteristic of the last several years. Anytime funds are again marginal, CCC would have to track outlays daily at each of 2,800 county offices which would cause further strain on county level resources and could cause delays in service to farmers. Affected programs would have to be suspended until necessary reprogramming decisions were made and communicated to Congress. These unnecessary problems can only be alleviated, in our view, by appropriating to CCC in the manner we have requested, which Congress has already authorized.

CONSERVATION RESERVE PROGRAM

Question: You have just completed the signup for the Conservation Reserve Program, and your testimony indicates that the maximum acceptable bid rates for each county should be made by mid-March. As you proceed with enrollment in the CRP, have you found the average size of the bids increasing in cost in order to attract additional land into the CRP, or what has been the trend?

Answer: The average annual rental payments for the first five signups are $42.06 in the first signup, $44.05 in the second signup, $46.96 in the third signup, $45.30 in the fourth signup, and $48.03 in the fifth signup. Part of the increase is caused by a regional shift in enrollment. In the earlier signups more acres came from the Great Plains and western States where rental rates are lower. In the later signups a higher percentage of the land came from the corn belt region where rental rates are higher.

Question: I note that in this sixth signup, North Dakota bid substantially more acres than any other State. To what do you attribute this result?

Answer: This strong showing can be partially attributed to an aggressive local interagency CRP promotion campaign. Also, with 2.8 million acres of highly erodible land, North Dakota has a relatively large pool of eligible land.

Question: You also indicate that you expect some counties to reach the 25 percent limitation on enrollment of cropland. Could you please provide for the record the 42 counties that have requested exemption to this rule, and provide also which 40 were approved for exemption, and why?

Answer: Of the 42 counties that have requested the waiver through the fifth signup, 39 have been approved. Wayne County, Iowa withdrew its request when it was subsequently determined that actual contract approvals would not exceed the limitation. Red Lake County, Minnesota, and Bailey County, Texas, were denied waiver of the limitation because of lack of support, if not opposition, by local agri-business and other entities in the counties. The counties with approved waivers are shown by State as follows:

Alabama: Greene, Perry, Marengo, Wilcox, and Sumter
Colorado: Baca, Crowley, Dolores, Elbert, Kiowa, Moffat, Montezuma, Prowers, Pueblo, and San Miguel
Idaho: Bannock, Oneida, and Power
Kansas: Hamilton and Morton
Nebraska: Banner, Kimball, McPherson, Rock, and Cherry
New Mexico: Curry, Roosevelt, and Quay
Oklahoma: Cimarron
Texas: Andrews, Briscoe, Cochran, Donley, Kent, King, Oldham, and Yoakum
Washington: Asotin and Douglas.

These counties were approved based on recommendations received from a sample survey of local agricultural producers, agri-businesses, county commissioners, and others in the county in which a majority agreed that exceeding the 25 percent limitation would not have an adverse economic impact on the local economy. These waivers were also supported by U.S. Senators and Congressmen representing the counties.

Question: How many counties, so far, have reached the 25 percent limitation? Please provide these counties for the record.

Answer: Fifty-nine counties have reached the 25 percent county cropland limitation including the counties listed above. The other counties, by State, are:

Alabama: Chambers
Alaska: Delta
Colorado: Bent, Grand, Huerfano, and Rio Blanco
Georgia: Johnson and Wheeler
Iowa: Wayne
Minnesota: Pennington and Red Lake
Oregon: Sherman
Texas: Armstrong, Bailey, Collingsworth, Hall, Kinney, and Lipscomb
Utah: Box Elder and San Juan.

Question: While the primary objective of the Conservation Reserve Program (CRP) is to reduce soil erosion by idling 40-45 million acres of highly erodible cropland, another objective of the program is to improve the nation's water quality. Forty-one percent of all river miles and 53 percent of all lake acres that have been evaluated to date suffer nonpoint source pollution -- pollution that enters the water through runoff and seepage rather than as discharge from pipes. Agricultural activity is the primary pollutant source in 64 percent of these rivers and 57 percent of these lakes. The Conservation Reserve Program has the potential to reduce agriculture's contribution to this problem.

Two recent analyses show that, while the CRP has significant potential to improve water quality, its impact has been minimal for the first 17.5 million acres enrolled. Studies show that it would be possible to greatly increase the effectiveness of the program in terms of water quality improvement while still meeting the objective of reduced soil erosion, if the remaining acres are targeted to areas with water quality problems related to agricultural activities. Will you, if possible, quantify the water quality impacts of the CRP to date?

Answer: ASCS is coordinating an interagency evaluation effort, including representatives from EPA, that is in the process of evaluating the water quality impacts of CRP. The evaluation group plans to release the analysis results this spring and will furnish them to the Committee at that time.

Question: Has ASCS or any Federal agency identified specific areas subject to nonpoint source pollution that also contain highly erodible agricultural lands that may be contributing to the problem? If so, please provide details on those areas for the record.

Answer: The Second RCA Appraisal does provide some indication of the areas subject to nonpoint source pollution. Because of their complexity and extent, nonpoint source pollutants are extremely difficult to quantify accurately. ASCS is committed to solving nonpoint source pollution problems caused from highly erodible land, and for the sixth signup, has created three new pools in the Chesapeake Bay region and increased rental rates in nine pools within the Chesapeake Bay watershed area.

Question: There is considerable overlap between the water quality objectives of the CRP and EPA's responsibilities under the 1987 Water Quality Act. What is USDA doing to coordinate the efforts of the agencies to yield greater water quality improvements while still meeting its primary CRP objective?

Answer: Initiatives have been implemented under CRP to achieve significant water quality benefits while maintaining CRP's primary objectives of soil erosion reduction. To improve water quality on highly erodible land, USDA recently authorized CRP enrollment of cropland areas of 66-99 feet wide, next to streams, lakes, estuaries, and other permanent bodies of water which are suitable for use as filter strips, even though the strips do not meet normal CRP erosion criteria. Adjustments in CRP bid pool boundaries and rental rates were also made to attract participation in those regions where significant water quality benefits can be achieved.

Question: EPA has mentioned the CRP as a tool to improve the quality of public drinking water by making agricultural lands in wellhead protection areas eligible for enrollment in the program. Is

USDA considering making such land eligible for enrollment, and if not, why?

Answer: The Administration's policy, which is consistent with the authorizing legislation, has been to manage CRP primarily as a soil erosion program which treats highly erodible cropland. Use of limited CRP authorities to place non highly erodible cropland under contract lessens its availability for producers with highly erodible land subject to conservation compliance, since the CRP is limited to a maximum of 45 million acres. We believe that other concerns of the Congress, such as water quality, should be separately legislated.

Question: If we were to appropriate all of the money required by the contracts currently in force, and not just the money due and payable in fiscal year 1989, what would that amount be? Please give the amount showing the fiscal year in which the contract was entered; the crop year the contract began; and your estimates entered into fiscal year 1988 and fiscal year 1989.

Answer: Full advance funding of contracts currently in force and estimated for crop years 1986 through 1988, together with the fiscal year 1989 cover costs associated with enrolling 12 million crop year 1989 acres, would total approximately $21.853 billion. This estimate assumes that all program payments, including annual rental payments, will be made in cash, instead of a combination of cash and commodity certificates for rental payments. The following tables reflect actual and estimated acres signed, consistent with the Budget request, and the related life-of-contract costs not already paid prior to FY 1989.

CRP Acreage Enrollment
By Crop and Fiscal Year
(Actual and Budgeted through FY 1989)

(Acres in millions)

Crop Year	FY 1986	FY 1987	FY 1988	FY 1989	Crop Year Total
1986	2.0				2.0
1987	6.2	7.5			13.7
1988		6.4	6.6 a/		13.0
1989			7.0	5.0	12.0
Total	8.2	13.9	13.6	5.0	40.7

a/ 4.5 million 1988 crop acres were bid in the sixth signup. No acres have been accepted as of March 16, 1988. A total of 6.6 million acres would have to be bid and accepted to reach the total of 13 million 1988 crop acres budgeted.

Note: Some 1987, 1988 and 1989 crop year acres were or are anticipated to be enrolled in advance of the actual crop year.

Conservation Reserve Program
Estimated Full Advance Funding in FY 1989
For Crop Year 1986 through 1989 Contracts
($ in millions)

	Balance due on contracts a/				Total
Crop Year	FY 1986	FY 1987	FY 1988	FY 1989	Advance Funding
1986	$664	--	--	--	$664
1987	2,790	$3,375	--	--	6,165
1988	--	3,542	$3,608	--	7,150
1989	--	--	4,200	$3,674	7,874
Total	$3,454	$6,917	$7,808	$3,674	$21,853

a/ Reflects fiscal year in which contracts were entered and not when payment is due. Excludes amounts already paid or estimated to be paid through FY 1988.

Question: There is some concern that under the current eligibility criteria and bid levels, the CRP will fall short of the 40 - 45 million acre goal, and some USDA analysts have estimated that possibly as few as 33 million acres will be enrolled. In view of the prevailing local rental rate restriction, do you believe that the 40 - 45 million acre goal will be met under current eligibility criteria and bid levels?

Answer: We feel that signup of the currently legislated 40 to 45 million acre reserve can and should be completed with minimal changes to the established program. Cumulative acres designated through the fifth signup total approximately 22.1 million acres. During the sixth signup another 4,507,170 million acres were bid. We project that the goal of 40 to 45 million acres can be achieved by 1990 as authorized in the Food Security Act.

Question: What are you doing to ensure that the minimum goal of 40 million acres will be met by 1990?

Answer: Several program initiatives have already been implemented to encourage higher participation in the program, such as use of the corn bonus incentives in 1987 and expansion of CRP eligibility standards to increase tree planting and improve water quality. We have also encouraged non-federal organizations to provide additional incentives to bring eligible acres into the CRP.

Question: Do you plan to use bonuses such as the one offered for corn-base acres to make the crop more attractive?

Answer: At the current time there are no plans to offer bonus payments for cropland or tree planting incentives.

WATER BANK PROGRAM

Question: What is the amount and number of applications for Water Bank funding that were not funded in fiscal year 1987?

Answer: In 1987, ASCS entered into 363 contracts, including renewals of some of the 676 expiring 1977 contracts. Assuming a 70-percent renewal rate and an average cost per contract of $23,000, an additional $9.7 million would have been needed to fully fund all expiring agreements. Since the Water Bank Program is operated only in 171 counties in 10 States, it does not include all areas where there is a need for wetland protection. Therefore, it would be difficult to estimate the total program demand if the program were operational in other areas where wetlands are in danger of destruction. The peak acreage protected by WBP agreements occurred between 1981 and 1983 when almost 700,000 acres were covered by agreements. There are currently around 550,000 acres covered by WBP agreements.

Question: What is your estimate of the number and amount of applications for Water Bank funding for fiscal year 1988?

Answer: To renew 555 expiring 1978 contracts would require $11.5 million. Within established program areas, we estimate that 365 contracts could be signed at a cost of $8.1 million and that $293,000 would be needed for technical assistance.

Question: How many of these applications will you be able to fund?

Answer: Of the 555 agreements that expired in 1987, we estimate that 365 or 66 percent could be renewed if all of the FY 1988 funding were used for renewing expiring agreements. However, applications for renewing agreements must compete with applications for new agreements. Since WBP appropriations have decreased from $10 million in 1972 through 1981 to $8.4 million in 1986 through 1988, and since land rental rates have increased during this time, only the highest priority wetlands can be protected under the WBP.

COLORADO RIVER BASIN SALINITY CONTROL PROGRAM

Question: Your budget proposes no funds for the Colorado River Basin Salinity Control Program. Has the program achieved its goal?

Answer: No funds were proposed for this program due to the need to reduce the deficit. However, the on-going Grand Valley, Colorado, and Uinta Basin, Utah, salinity projects have been able to achieve reasonable results. Through 1986, the average annual salt load reductions from these projects were 33,600 tons in the Grand Valley and 22,700 tons in the Uinta Basin.

Although the current salinity level of the Colorado River, due to recent wet years, more than meets the salinity standard set for Imperial Dam, it is estimated that the joint USDA and Bureau of Reclamation programs need to remove about 1 million tons of salt per year by the year 2010 in order to meet long-range program goals.

Question: What is the length of the program as outlined by the Colorado River States, and what would be the level of funding required under this program for fiscal year 1989 and remaining years under the project?

Answer: The program is outlined by the States through the year 2010. The funding level recommended by the States is $10.4 million for fiscal year 1989 and approximately $302 million to complete a total of 11 projects, which will achieve the long-range goal through

2010 as currently set. However, 30 percent of Federal cost-share assistance funds would be repaid by the Basin States. Proposed funding by year is as follows:

Colorado River Basin Salinity Control Program
($000)

Year	Estimated Cost 1/
1990	$15,388
1991	21,748
1992	25,351
1993	24,491
1994	23,682
1995	21,760
1996	21,124
1997	20,278
1998	19,794
1999	19,000
2000	16,474
2001	15,446
2002	14,506
2003	12,232
2004	9,583
2005	7,676
2006	5,501
2007	4,243
2008	2,216
2009	1,116
2010	867
Total	$302,476

1/ Includes cost-share assistance, technical assistance, monitoring and evaluation, and information and education.

SALARIES AND EXPENSES

Question: I note that your budget request contains a decrease of $23,400,000 for reduced county office workloads because of several factors, one of which is no new funding for regular conservation programs. You go on to point out that the budget request includes $8,293,000 for the administrative costs for conservation. Of that $23,400,000 decrease, how much is that related to conservation programs? In other words, how much money for Salaries and Expenses in addition to the budget request would be required if the Conservation Programs were maintained at fiscal year 1988 levels?

Answer: An additional $9,825,000 in Salaries and Expenses funding would be required to carry out the traditional conservation programs at fiscal year 1988 levels. This is the amount, together with 571 county office staff years, that was not included in our Budget request as a result of our conservation proposals.

Question: You also include an increase of $38,400,000 for the loan service account. Please explain how this account is operated. How does money enter it and for what is it used?

Answer: In the 1940's, governmental policy established that special services provided to government program participants were to be self-sustaining. To carry out this mandate in CCC, the Executive Vice President, CCC, was authorized to determine the amount of service fees to be assessed producers who obtained commodity loans from CCC. The service fees have two purposes: first, to defray or partially defray the administrative costs of processing loans, and secondly, to indemnify CCC for losses of uninsured commodities under loan. While the rates charged producers have changed periodically over the years to reflect CCC's cost of operations, most of the current fees, which cover farm-stored and warehouse-stored commodity loans and sugar processor loans, have been in effect since the 1974 crop year for all related commodities, with the exception of the sugar processing loans which have been in effect since the 1982 crop year. Normally, the fees are collected by the county office through an offset to the original loan amount. The collected amounts are credited to CCC in a separate Treasury account; the collective receipts from all loan service fees accumulate in this account, and remain there until such time that the Administrator determines the funds are needed to supplement normal CCC transfers and other advances and reimbursement to cover essential agency administrative workload operations.

Question: What has been the history of the account?

Answer: In FY 1986, the ASCS Salaries and Expenses account began experiencing a severe drain on its CCC transfer authority to fund unprecedented workload demands, especially for administering the provisions of the Food Security Act of 1985, handling the large volume of loan forfeitures, and installing and implementing the State and County Office Automation Project (SCOAP). Additional funds were also needed to cover pay cost increases, the new Federal Employees Retirement System, and above all, to fund losses sustained by CCC. These losses were required to compensate the Corporation for losses sustained by CCC resulting from damage to or destruction of collateral for which the producer, in return for paying a service charge, was not required to carry insurance. CCC, it should be noted, is self-insured.

Before submitting our urgent requests for supplemental funds in both FY 1986 and 1987, ASCS transferred the monies available in the loan service fee account to minimize the need for supplemental appropriations. In FY 1986 $24.9 million was transferred, with $12.3 million being transferred in FY 1987. This account represents the only flexibility ASCS has to cover the uncertain workload demands of the extremely volatile CCC programs, and the 1986 and 1987 supplementals would have been significantly greater if the loan service fees had not been available.

Question: What would have been the result if you had not been able to transfer the $38,400,000 from the loan service account to salaries and expenses?

Answer: Without the use of the account in FY 1988, administrative operations would have been altered significantly because the Bipartisan Budget Agreement specifically precludes supplemental requests except in dire emergencies. ASCS had already determined that a supplemental request would be required to provide for all 1988 workload operations.

With the Budget Agreement in place, it was determined that available funds in the loan service fee account would be drawn down to cover unfunded workload. This decision has avoided the need for major changes in personnel policy and will permit the agency to maintain service to farmers and essential operations. Since anticipated available funds still fall short of the total funds needed, all ASCS offices have been directed to reduce expenditures wherever feasible to avoid a potential furlough or essential workload curtailment. Based on current obligations to date, the total use of the $38,400,000 in the loan service fee account will avoid a furlough of approximately three weeks' duration for all Agency employees.

I want to emphasize that our 1989 Budget request is absolutely not for the purpose of restoring the loan service account. Rather, it recognizes that with the depletion of the account this year, a net increase in CCC transfer authority is needed in our base funding in order to maintain administrative workload operations in FY 1989 at even a decreased level. As reflected in our justification materials to the Committee, our actual funding request is up only $15 million, reflecting the combination of lower anticipated workload and the one-time availability of the loan service account in FY 1988.

DAIRY INDEMNITY PROGRAM

Question: What is the number and amount of claims pending for dairy indemnity payments in fiscal year 1988?

Answer: Two producers, one in Missouri and one in Oklahoma, are still off the market due to the 1986 heptachlor contamination incident. It is estimated that monthly claims from the two producers will total $100,000 before favorable test results are obtained. There is also one claim from a producer in Alabama pending payment in the amount of $4,919.99.

Question: How many and what amount do you expect to be approved?

Answer: We expect to approve all three of these claims for an estimated amount of $105,000.

Question: Do you expect any additional claims to be made in fiscal year 1988?

Answer: We estimate that 10 additional dairy producers will file claims for approximately $50,000 during the remainder of fiscal year 1988.

Question: You are anticipating no carryover funds from fiscal year 1988 to fiscal year 1989. Is it desirable to have some amount of money in the fund to carry over from year to year? If so, what amount?

Answer: Yes, it would be desirable. In many cases, the milk is dumped late in the fiscal year and by the time the milk producer obtains the required documentation to submit a claim, a new fiscal year has started. In order to timely pay these claims it would be desirable to have money carried over from one fiscal year to the next. We feel a carryover of $50,000 would be sufficient to cover our needs in a normal year.

EMERGENCY CONSERVATION PROGRAM

Question: Recently, the State of Hawaii has identified $2 million worth of exigent watershed projects due to flooding which hit Hawaii this past December 31 and January 1. Have you made money available from the Emergency Conservation Program for this work? If so, how much?

Answer: As of February 10, 1988, $220,000 was made available under the ECP to rehabilitate eligible farmland damaged by the flood. SCS has also made available funding for this storm damage under its authorities.

WHEAT BID/CERTIFICATE EXCHANGE

Question: USDA has been using commodity certificates in lieu of cash payments since 1986. So far, the Department has issued well over $10 billion in certificates. The payments have been made to producers to grain handlers, exporters, and others. Recently, USDA has held wheat auctions where holders of certificates, primarily, grain handlers and exporters, have been able to exchange certificates for government-owned wheat inventory. To the extent the auction bids offered by certificate holders were less than the value of the government's wheat there was a cost to the U.S. Treasury. This practice has led many to assert that the wheat auction was simply a backdoor way to lower wheat prices and, thus, subsidize increased wheat exports by grain companies. How much did the wheat auction cost the U.S. Treasury?

Answer: As of March 16, 1988, about 333 million bushels of CCC wheat had been exchanged with generic certificates through the offer bid "auction" process. We intend to continue the auction, although as supplies are deemed by the market to be sufficient to meet anticipated needs, we expect interest in the program will wane. Since cash outlays associated with the wheat being exchanged were expended in previous fiscal years through the loan program, a net savings to the Treasury is expected rather than a cost. These savings, which are a result of reduced storage, handling and transportation costs, are projected at $70 million in FY 1988 and approximately $140 million in FY 1989. To the extent that CCC wheat is exchanged with certificates valued at less than the original loan amount, net realized losses to CCC will result; however, the amount of these losses cannot be determined until the auction is completed.

Question: To the extent that wheat prices were lowered as a result of more wheat coming into the marketplace, has USDA estimated the increased budget exposure that has resulted or will result from this activity?

Answer: Prior to the announcement of the wheat auction USDA was estimating that the 1987 crop wheat prices would average $2.40-$2.60 per bushel. Our current estimate of the 1987 crop wheat price is

$2.55-$2.65 per bushel. Therefore, the season average price has risen and our budget exposure has declined. Wheat deficiency payments for the 1987 crop are projected to be about $90 million lower than estimated prior to the beginning of the auction. The auction combined with the Export Enhancement Program has helped to achieve a 54 percent increase in U.S. wheat exports this year and a reduction of nearly 550 million bushels in carryover stocks.

Question: Does USDA agree that the wheat auction was essentially a backdoor way to subsidize exports? Please explain.

Answer: The auction may be considered by some as a backdoor way of subsidizing exports. However, the wheat auction has helped move needed U.S. wheat supplies into the marketplace at more competitive prices and provided a means to counter the unfair trade practices of some of our foreign competitors. These additional supplies are being used to meet the significantly expanded export demand for the 1987/88 marketing year which is expected to increase U.S. wheat exports 54 percent above last year's level. The wheat auction coupled with the Export Enhancement Program is considered to be in the best interest of the wheat sector and the reaction to the auction has generally been favorable.

PAYMENT LIMITATION

Question: Last April, GAO projected that farm reorganizations done in order to avoid the $50,000 payment limit could result in over 15,000 new persons receiving commodity program payments in 1988 and 1989. Payments to these new persons were projected to add over $600 million to USDA outlays for those years alone. Congress changed the payment limitations provision in the Reconciliation Bill by redefining "person" and requiring that persons who receive payments be actively engaged in farming. In the Department's opinion, will these changes be effective in cutting out the abuses we have all heard about over the past several years? What does USDA estimate the budgetary savings of these to be for fiscal years 1988-90?

Answer: The recent legislation redefining a "person" for payment purposes will take effect beginning with the 1989 crops and should go a long way to reduce some of the past abuses. Budget savings are expected, due both to this change and changes which reduce payments to foreign, State and political entities, and limit payments to no more than three entities.

While payments could increase to spouses, minor children or family members due to the liberalization of "person" determinations for these entities, the redefinition of a "person" for payment limitation purposes will likely save about $200 million in fiscal years 1989 and 1990.
GAO also recommended that the ASCS Administrator:

o Revise implementing regulations and guidance to clearly specify the extent of contributions necessary for an entity to be "actively engaged" in farming and how contributions are to be valued for this determination;

o Improve the guidance and training of state and county officials who are responsible for approving farm reorganizations; and

o Improve headquarters' oversight of the person determination activities of the State and county offices.

What actions has ASCS taken on GAO recommendations and to implement changes as a result of the revised legislation relating to the $50,000 payment limitation?

Answer: Since the passage of the reconciliation bill in December 1987 took place later than the completion of farm operating plans, State and county ASCS offices were instructed for the 1988 crop year to use the same rules that were in effect for the 1987 crop year. Regulations are currently being drafted, to be published as a proposed rule, to implement the "actively engaged" and other provisions of the reconciliation bill.

Training meetings have been held with State office personnel to improve their understanding of the current rules, and they, in turn, have held meetings with county office personnel. Additional ways to improve the oversight of "person" determinations, both at the county and State level are being examined.

Once the new regulations are published as final, additional training meetings will be held to familiarize State and county personnel with these changes.

EXTENSION OF LOANS

Question: The fiscal year 1984 crop loans may be extended for one year. Why did the Department exclude 1984 from its decision not to extend loans?

Answer: The Budget Reconciliation Act of 1987 lowered the farmer-owned reserve minimum quantity level to 300 million bushels for wheat and 450 million bushels for feed grains. The decision to permit, at the producer's option, maturing 1984 crop wheat, barley, and oats reserve loans to be extended for 1 more year was made to ensure that reserve quantity levels would not fall below the established minimums within the next 12 to 18 months, especially for wheat.

DAIRY COMMISSION REPORT

Question: The Food Security Act of 1985 established a commission to study and recommend ways to deal with the country's chronic dairy overproduction problems. This "Dairy Commission" is now preparing a report detailing its findings, and proposing possible solutions. The final report is expected to be issued at the end of March, 1988. In light of the increasing production trends of the dairy industry since the end of the Dairy Termination Program, and in light of the budget pressure to reduce the deficit, the report is particularly timely. What does USDA/ASCS plan to do with the results of the dairy commission report?

Answer: The Dairy Commission's report will be carefully analyzed by USDA personnel after it is released. It is not possible to determine the Department's response until after the report is issued and analyzed.

Question: Will any new legislation be introduced? Please explain.

Answer: It is impossible to predict whether any legislation will be proposed by the Administration based on the Dairy Commission report until its contents are made available and analyzed.

Question: What will be the budgetary impact of proposed legislation?

Answer: The budgetary impact cannot be determined until the Dairy Commission's report is available to be analyzed and then only if a legislative proposal is offered.

PRODUCTION REDUCTION

Question: The current farm program is geared significantly toward reducing production. For example, in 1987, wheat growers were required to reduce planted acreage by 27 1/2 percent. The set-aside requirement is expected to be high again in 1988. In addition, over 23 million acres of crop land have been taken out of production as part of the Conservation Reserve Program. Now, we have the 0-92 program, where producers can get 92 percent of their deficiency payments for not planting a crop. These three programs will result in significant decreases in domestic production. In the meantime, many grain industry experts believe that international suppliers will increase their production to compensate for the decreased U.S. level and, perhaps, replace the U.S. supplier in some markets. We have already seen this in many cases. How do you view this condition of risking long-term market development in order to minimize the short-term budget outlays by CCC?

Answer: The Conservation Reserve Program (CRP) and the 0/92 program were developed and are being implemented with distinct long-term goals in mind. The CRP is designed to remove highly erodible land out of crop production and discourage "sodbusting" and "swampbusting." The 0/92 program is intended to break the link between deficiency (income support) payments and planted acreage of the program crop. Making income support independent of production will encourage producers to make their planting decisions on the basis of market factors, not on the basis of Government incentives. The 0/92 program is expected to encourage high cost producers in marginal production areas to idle their land for conserving use and encourage crop production in those areas best suited for production.

Producing ample supplies of U.S. grain to service export markets is not considered a problem. American agriculture currently has excess productive capacity. This has required the use of acreage reduction programs (ARP's) as short-term supply control. The goal of the CRP and 0/92 programs is to idle the marginal, less productive land, and allow for lower or no ARP's on the most productive areas.

In order to permanently regain the U.S. market share of exports, U.S. agriculture must become competitive without the use of export subsidies. To achieve this, price support loan rates must be reduced to competitive levels. During this transition period to a more competitive level, domestic programs such as the 0/92 are needed as income support, as well as export market development programs such as the Export Enhancement (EEP) program. The EEP is being used extensively to foster export growth in several commodities and in the 1987/88 marketing year, the total volume of U.S. agricultural exports is expected to reach 141 million metric tons, up 29 percent from 2 years ago.

Question: Has USDA analyzed the long-term impact that these various programs will have on U.S. exports? On Government costs? If not, why not? If so, what are the results?

Answer: The long-term budget and supply/demand impacts of the CRP and 0/92 programs are addressed in the President's Budget which was prepared in January 1988. The 0/92 program is expected to idle an additional 1 to 2 million acres of marginal acreage and will likely raise average wheat and feed grain farm prices by $0.01 to $0.03 per bushel. Minimal or no impact on exports is expected.

The CRP is expected to idle up to 45 million acres of marginal land by the end of the 1985 Act. The eliminated production on these idled acres is likely to be offset by lower ARP's on the more productive acres that remain under till. Thus, the CRP impact on exports and prices is also expected to be minimal.

From a budget standpoint, the 0/92 program in combination with the 50/92 program is projected to save from $200 to $500 million on a fiscal year basis. These savings primarily result from a reduction in nonrecourse loans made on the foregone production. The CRP program, without quantifying the conservation benefits, is likely to be a net cost program mainly because nonprogram-base cropland acreage, which represents about 40 percent of CRP acreage, is allowed to enter the CRP.

Economic analyses were prepared on these programs prior to the President's Budget. Further information on the CRP is available in the Final Regulatory Impact Analysis for the Conservation Reserve Program, dated April 3, 1986. Several analyses were prepared within ASCS addressing the acreage, income and long-term competitive goals of the 0/92 program. Copies of these analyses are available upon request.

Question: In terms of the 0-92 provision, what are you finding? Are many producers signing up? What will the effect on production and costs of the farm program be?

Answer: Overall 0/92 participation is not expected to be excessive in crop year 1988. Projections indicate that an additional 1 to 2 million acres will be idled beyond that which would have been idled in the 50/92 program. Slightly higher commodity prices in 1987 have reduced projected deficiency rates, thus limiting the attractiveness of the 0/92 program.

Enrollment in the 50/92 program included 3.5 million 1986 crop acres and 7.2 million 1987 crop acres. The 1988 0/92 program enrollment is expected to be about 9 million acres. Preliminary reports indicate heaviest 0/92 enrollment in the southern plains and the southeast regions. These areas generally face higher break-even costs and have greater yield variability. The foregone production on the additional 0/92 acres is roughly 100-150 million bushels of wheat and feed grains. The budget savings from these additional 0/92 acres for crop year 1988 is projected at about $150 to $200 million.

ESTABLISHING COMMON YIELDS

Question: Computing payments to farmers under ASCS' target-price and acreage reduction programs requires that ASCS develop an estimated crop yield for each participating farm unit. The Food Security Act of 1985 prescribes the methodology for determining yields for these programs through the 1990 crop year. Essentially, the Act requires that program yields be calculated as the average of the preceeding 5 years' program yields, except that beginning in 1988, actual documented yield data may be used for any of the preceding 5 years if the data is available. This method of estimated yield differs from that used by FCIC, even when the same cropland is involved. What action has been taken in response to GAO's report recommending that USDA establish a common yield for participants in USDA programs?

Answer: This matter has been investigated at various times. However, such action would require FCIC to use ASCS yields that are established in accordance with the Food Security Act of 1985. Under provisions of the Act, it does not appear that ASCS has the alternative of establishing yields in the manner which is currently being used by FCIC.

Question: Is it feasible for ASCS and FCIC to develop a single yield estimation method that will meet the objectives of each Agency, thereby ending the practice of assigning two different yields to the same cropland?

Answer: Although it would be feasible to develop a single yield estimation method that would meet the objectives of each agency, both ASCS and FCIC would have to make substantial changes in methods of determining yields to achieve this.

Historically, ASCS State check yields with substantial adjustments have been established based on the higher of the 10 year average, 5-year average, or the adjusted 5-year average. Additionally, farmers have been able to "prove" their yields based on the actual production/harvested acreage. In accordance with the Food Security Act of 1985, the 1988 yield is based on the average of the farm program payment yields for the farm for the 1981 through 1985 crop years, excluding the years in which the yield was highest and lowest.

FCIC has used a standard 10-year moving average, without adjustment for weather. When actual production history is not available, FCIC uses a "T-Table"-transitional yield.

Question: Would administrative cost savings accrue from having just a single yield calculated for cropland enrolled in any USDA program rather than the two or more estimates made now for some cropland?

Answer: Yes, administrative cost savings would accrue. FCIC could use ASCS's yield as they are currently using in some areas and not apply the T-Table, thereby eliminating the need for further calculation with respect to establishing the yield. However, depending upon the yield that is established, an increase in program payments could offset any administrative cost savings.

PAYMENTS TO FOREIGN PERSONS

Question: As part of the Omnibus Budget Reconciliation Act of 1987, Congress made foreign persons ineligible to receive production adjustment payments, price support loans, payments, or benefits unless actively engaged in farming. Until the passage of that legislation; however, such payments had been allowed and, according to a GAO report, totaled $22.5 million for 1984-86. Can you estimate budget savings attributable to this legislative change for the years 1988-90?

Answer: The legislative change will have very little impact in fiscal years 1988-90 since the rule change takes effect with the 1990 crop year. Foreign entities currently receive about $40 million in deficiency and diversion payments. However, the savings for the 1989 crop would be approximately $25 million because the overall level of deficiency payments is declining. The Omnibus Budget Reconciliation Act of 1987 made foreign entities ineligible to receive Government payments, except under limited conditions. Foreign persons may receive payments if they are actually engaged in farming by contributing land, capital and active personnel labor.

QUESTIONS SUBMITTED BY SENATOR SASSER

ELIMINATION OF ACP

Question: I am disappointed to see the Administration calling for the elimination of the Agricultural Conservation Program. This program has helped in the development of water projects and forest stands, as well as improving wildlife conservation and soil retention. These are areas which I believe are still worthy of our attention, and I continually hear requests for more funding for such programs. I don't believe that the Department of Agriculture or other agencies have sufficient budgets to address these needs in the first place, and now you are asking for further reductions. While we are making efforts to improve our conservation programs, how can you justify the elimination of a program which is making gains which might otherwise be overlooked?

Answer: The ACP is proposed for termination in order to contribute to the reduction of Federal spending. The proposal is consistent with the Administration's objective of shifting responsibility for ACP-type conservation measures to State, local, and private sources.

SERVICE TO FARMERS

Question: In some parts of Tennessee, farmers are disturbed by what they consider uncooperative agents at the local level of the Agricultural Stabilization and Conservation Service. These agents are often unfamiliar with programs and provide poor information to farmers. (Examples: 1. Farmers told they were not eligible for disaster loans when they were. 2. Farmers not receiving ASCS bulletins and information. 3. Local ASCS offices giving information contradictory to State information.) Is the Agricultural Stabilization and Conservation Service making an effort to improve services at the local level, and what steps can be undertaken to ensure that local offices are distributing correct information?

Answer: We are continuing to take steps to improve services at both State and local levels. For the month of February, all incoming telephone calls were monitored and logged as to their purpose, information requirements, the problem solution or the individual to whom the problem was referred and the amount of time taken to resolve the problem.

This information was analyzed and will be reviewed by a Task Force consisting of three Program Assistants, two County Executive Directors, and one District Director, who will meet on March 24-25, 1988 to study and find ways to improve our ability to transmit information to county offices and to farmers more effectively and efficiently. In addition to logging telephone calls, each county has also been requested to submit concerns, criticisms, suggestions, or any other matter they feel the Task Force should consider in order to improve or assist counties in providing information to the farmers.

The problem of farmers being told they were ineligible for disaster payment may have involved some fruit growers, who, based on the original law, were ineligible for the program, but were later made eligible by an amendment to the law. Changes in the eligibility requirement together with changes in the payment calculation may explain local ASCS offices giving information contradictory to State information. With these revisions, it is possible that the information given in certain cases may not have been the most up-to-date, although we make every effort to disseminate the most recent changes to the local offices as quickly as possible. Finally, regarding those farmers who did not receive ASCS bulletins and information, these may have been fruit growers exclusively, who had no previous participation history in any of the ASCS programs. Thus, their names simply would not have been on our mailing list. Information on disaster payments, however, like other ASCS programs, was made available through press releases and the media.

At all of our workshops and training sessions, we stress courtesy and cooperation with other agencies and farmers and the need to be as helpful and as accurate as possible in providing assistance.

QUESTIONS SUBMITTED BY SENATOR BUMPERS

PAYMENT LIMITATION

Question: In the Budget Reconciliation Act, Congress adopted some necessary reforms of the payment limitation law. To give farmers time to make critical adjustments in their farming structures, the implementation was set for 1989. What is ASCS doing now to prepare farmers so as to avoid unnecessary confrontation next year?

Answer: Regulations are currently being drafted to implement the reforms you refer to. These regulations will be published for public comment in the near future, and publication of the final rule is scheduled to take place prior to August 1, 1988. After that date, farmers will have an opportunity to adjust their operations in accordance with the final rule, which will be in effect for the 1989 crop year.

Question: Farmers throughout the country have loudly complained that the ASCS rarely meets any of its deadlines or target dates for payments, appeals determinations, etc. I know some of the fault lies with Congress, but by no means, all. What positive effort is the ASCS taking to resolve this problem? Do you have compliance information for past years? How does the ASCS monitor chronic late action?

Answer: The Agency has experienced an unprecedented workload due to the tremendous participation in farm programs. In an effort to cope with increased activities, we authorized last year additional permanent full time employees in county offices. The use of temporary office staff is extensive, but is limited by available agency resources.

State and county ASC committees have been allotted additional meeting days in order to deal with an increase in producer appeals. In Washington, we've added additional hearing officers to deal with the backlog of appeals and to keep the process current. For example, some payment limitation cases took up to six months or more. Now, each person determination appeal must be acted upon within 60 days.

Until recently, all county offices mailed data to our Kansas City Field Office where direct producer payments, such as deficiency payments, were computed. Checks prepared in Kansas City were then mailed back to the county offices where they were verified for accuracy before being mailed to the program participant. We now have the capability to prepare producer payment checks on site in county offices. Each county has a printer primarily dedicated to check writing.

When we discover a county office that is experiencing chronic problems, management initiatives including training, closer supervision, increased staffing, and staffing changes are employed to improve service. Poor performance is not allowed to continue.

IMPACT OF CROPLAND RETIREMENT

Question: Through various programs, including 50/92, paid diversions, 0/92, CRP, ARP, etc., farmers are given necessary options to help retire marginal and other farmland from production. Congress recognized, however, that if too much land was retired in any one county, ag-dependent businesses and the remaining agriculture producers will be adversely affected. Unfortunately, I have learned that ASCS sees limits placed by Congress as advisory only. Is this the position of ASCS?

Answer: ASCS's position is that Congress placed such limits on the amount of land to be taken out of production to provide an avenue of protection for agri-business within a particular county. We support this position wholeheartedly. However, to allow equitable treatment within marginal agricultural counties and those whose main source of income may be other than agriculture, we have provided for some expansion of these limits. County ASC committees may request such expansion by submitting adequate justification that such expansion will not have an adverse effect on agri-business with supporting statements from agri-businessmen and agricultural leaders. Only justifiable requests are approved.

QUESTIONS SUBMITTED BY SENATOR COCHRAN

COST-SHARE PROGRAMS

Question: You are again requesting the termination of the ACP, Water Bank, Forestry Incentives, and Emergency Conservation Programs. These programs represent very important efforts to conserving our soil and water resources.

Have you made any studies of the effect of leaving these program goals to be addressed by State and private concerns?

Answer: The National Conservation Program (NCP) is strengthening and expanding cooperation among the USDA and local and State governments. States are being encouraged to develop programs that establish objectives, identify critical problems and areas, and set priorities for corrective action. Approximately $438 million was appropriated by State and local governments for conservation programs for FY 1988.

Question: Do you have any projections as to what to expect in States with limited resources, such as Mississippi?

Answer: Mississippi has two State funded natural resource programs -- the Forest Resource Development Program and the State Conservation Program. The State may want to increase funding for these programs to cover the decrease in funds that will occur with the termination of Federal conservation programs. Undoubtedly, there will be a variation in the capacity of individual States to increase funding for State and local programs to make up for the loss in Federal funding.

CONSERVATION RESERVE PROGRAM

Question: Recognizing certain changes made for the sixth CRP signup, to encourage more tree planting, do you have estimates of the results today? Specifically, what percent of total CRP acres are enrolled for tree planting? (The Department objective is 12.5 percent).

Answer: During the sixth signup nearly 12 percent or 536,000 acres were offered to be planted to trees. Cumulative acres designated for tree planting through the fifth signup represented approximately 5 percent of enrolled acres. The program is getting closer to achieving the goal of 12.5 percent of total enrolled acres planted to trees.

Question: I have forwarded a proposal for your consideration which I believe will assist USDA in reaching its goal of achieving 12.5 percent of the total CRP acreage planted to trees. My proposal -- making certain fields in the Delta region that are not highly erodible, but are marginal for row-crop agriculture, eligible for the CRP -- would simply build on the discretion you exercised in preparation for the sixth signup. Have you had an opportunity to review that proposal? Would you care to comment?

Answer: The Administration's policy has been to manage CRP with soil erosion savings as the primary objective. USDA will consider further changes to make additional categories of land eligible for the reserve. Your proposal to allow entry of Delta bottomland is one of the changes being considered.

CCC PROGRAM SIGNUP

Question: Do you expect to complete signup by April 15, or will you need to extend the deadline?

Answer: It is fully expected that signup will be completed by the April 15 deadline. As with the 0/92 signup, State and county ASCS offices will take necessary actions to ensure that signup is completed within the scheduled enrollment period. We do not foresee extending the enrollment period.

Question: Are there any major problems in signup this year?

Answer: As with any program with numerous changes, there have been some minor problems but, to date, we have not encountered any major problems.

Question: Have there been changes in regulations or implementation procedures that would disqualify, for the 1988 crop year, any farming plan that was approved in 1987?

Answer: State and county ASCS offices were instructed to use the same rules for the 1988 crop-year that were in effect for the 1987 crop-year due to the timing of the Budget Reconciliation Act of 1987 vis-a-vis completion of 1988 farm operating plans. Therefore, except in extenuating circumstances where additional information may have been obtained, there would be no reason to "disqualify" a farming plan that was approved in 1987.

Question: Please provide for the record, a report on the CCC program signup (open 2/16 - 4/15/88).

Answer: ASCS will be pleased to furnish a report on the acreage reduction program signup as soon as possible after the close of signup.

QUESTIONS SUBMITTED BY SENATOR McCLURE

BARLEY DEFICIENCY PAYMENT RATES

Question: I am very concerned about the current method of determining the barley deficiency payment rate, and I have written to the Department of Agriculture on this issue. The response I received stated that the price is a national average based on data provided by grain elevator operators, mills and other grain buyers operating in each state. This information is obtained through samples and questionnaires. My primary concern, and the concern of Idaho barley producers who participate in the barley program, is that the method for determining the average price is not accurate or fair. Will you explain again for the record how the five-month average is currently determined?

Answer: Average prices received by farmers are published monthly by the National Agricultural Statistics Service (NASS) of USDA in the publication, Agricultural Prices. Prices for 47 commodities marketed by farmers are included. For barley, as for most of the crops in the farm program, the prices are used in the computation of deficiency payments and is factored into the determination of release and call levels for the farmer grain reserve program.

Monthly grain price surveys are conducted by the State Statistical Offices of NASS in 35 States which include the major producing States for each commodity. Crops in the survey include wheat, corn, oats, barley, sorghum grain, soybeans, flaxseed and sunflower. A sample of firms or individuals who purchase grain from farmers is asked to report the total quantity and value of grain purchased from farmers during the previous month, and in addition a mid-month average price for the current month. Nationwide, about 2,600 firms or individuals are sampled each month.

Each State's sample is stratified by size of operation for sampling efficiency. Large firms are sampled more frequently than smaller firms. Each firm's reported price is weighted by the quantity of grain purchased from farmers during the month and expanded by its sampling fraction. Each state's average price is weighted by the total expanded quantity for the State to calculate the U.S. average price. This provides a weighted average price which is based on actual marketings during the month.

The published average prices for the entire month are used in the calculation of the 5-month average price received by farmers for wheat, barley, oats, corn and sorghum grain. For barley, the weighted 5-month average price is determined by using these entire month prices for the first 5 marketing months--- June-October. These prices, in turn, are weighted by the percentage sold during each of these 5 months. Percents sold are based on the survey monthly expanded quantities sold as a percent of total sales during the 5-month period.

The 5-month average constructed for 1987-crop barley, is illustrated below:

Month	U.S. Average Price Per Bushel	Percent of Sales
June 1987	$1.74	18.9
July 1987	1.84	19.2
Aug. 1987	2.00	28.7
Sept. 1987	1.87	17.9
Oct. 1987	1.74	15.3
5 Months	$1.86	100.0

The Food Security Act of 1985 (the 1985 Act) established the method used to determine the national barley deficiency payment rate. All barley producers receive the same per-bushel deficiency payment rate. Deficiency payments are made up of two components: regular deficiency payments and "Findley" or emergency compensation payments. The payment rate for the regular deficiency payment is determined by the difference between the target price and the higher of the 5-month weighted average market price or the basic loan rate. The 5-month payment rate for the 1987-crop barley was $0.74, the maximum permitted under the 1985 Act. Thus, every barley producer received the maximum 5-month payment permitted by law, even if the price had been much lower.

The second component of the barley deficiency payment--the "Findley" payment or emergency compensation payment--is determined by the difference between the basic loan rate and the higher of the 12-month weighted average market price or the announced (reduced) loan rate. The 1987-crop weighted average market barley price will not be known until July 1988, so it cannot yet be determined if any Findley payment will be made. However, barley demand has been strong, and the 12-month price may possibly exceed the basic loan rate of $1.86 per bushel, resulting in no "Findley" payment.

Question: According to information provided by the Department, malting barley is included in the data used to establish the average price. This is significant because malting barley accounts for 35-45% of the barley produced in the nation but it is sold primarily to breweries and not for the government program. Idaho was second in the nation in barley production from 1983-1987, with the majority of the barley being sold directly off the farm to breweries and as cattle feed. Also, the five-month average price for malting barley is $2.16 compared to the all barley price of $1.86. Including malting barley in the data used to determine a national average has resulted in an artificially high average price that has resulted in lower deficiency payments for barley. Since malting barley is not part of the barley program, why is it included in the national average?

Answer: Malting barley most definitely is part of the barley program. A large portion of barley planted and domestically used for feed is of malting barley varieties. The Secretary has the discretion to exempt malting barley from the program, but has not chosen to do so. Producers of malting barley have the option to participate in the acreage reduction programs and if they elect to do so, will receive deficiency payments at precisely the same payment rate as producers of feed barley.

Currently, deficiency payments are made regardless of the end use as feed or malt. Many producers plant malting barley varieties hoping to achieve a high quality product and therefore a premium from the malting industry. However, if the quality of their crop is poor, or if there is a surplus of high quality malting barley from other producers, the farmer often sells or uses his "malting barley" crop for feed. It may be many months before the end use of the crop is known. To attempt to treat feed and malting barley differently would create confusion.

Question: If malting barley goes into the program as feed grain, why isn't the lower feed grain price used in computing the national average instead of the higher malt barley price?

Answer: Since the program does not discriminate between malting barley and feed barley--either type may be produced under the program for identical loan and target price protection, and since both types are grown and marketed by program participants, it appears that the all-barley price is the appropriate one for deficiency payment determination.

Question: The five-month average price was calculated in December. Many barley producers received lower deficiency payments because of the effect of including malt barley in the national average. The twelve-month average price will be determined in July, and it is very likely that barley producers will not receive their deficiency payment if this practice continues. They do not object to a system that yields no deficiency payment if the method used to determine the national average price accurately reflects the volume of barley sold for the program and the going market price. They do object to losing this payment because of a price that is not accurate. Can I get a commitment from ASCS to adjust the method for determining the national average price for barley so that farmers who participate in the program will receive an average price that truly represents market conditions?

Answer: The Department has no plans to adjust the method for determining barley price since the weighted average market barley price as determined by the NASS takes into account market conditions through broad-based sampling of grain elevator prices and marketing surveys. The effect of the higher malting barley prices is mitigated by smaller marketing weights.

Question: All ASCS county offices are now computerized and have access to accurate information about the volume and the going market price for barley. Why can't ASCS offices take advantage of available computers to provide an accurate county average that could be submitted to state and national ASCS offices instead of relying on samples and questionnaires that do not reflect the most accurate market price or the actual volume of barley that will be included in the program?

Answer: NASS provides accurate prices through their extensive sampling procedures and the agency is staffed with professionals who design and check the accuracy of these methods. In addition, the NASS methods are subject to review by outside panels of experts who concur that their procedures are correct. Therefore it would not be practical or necessary for ASCS offices to provide a county average.

EMERGENCY CONSERVATION PROGRAM

Question: Recent figures from the Soil Conservation Service indicate that many western States are experiencing severe water shortages as a result of below normal precipitation for the second year in a row. This, combined with last year's drought, has resulted in very low reservoirs and the strong likelihood of an even more serious water shortage this summer. Even if precipitation is extremely heavy in the coming months, it is very unlikely that it will provide enough water to prevent a drought.

In Idaho, snow accumulation is 60 to 80 percent of normal across the State and streams are expected to yield only 60 to 70 percent of normal runoff this spring and summer. Precipitation averaged 74 percent of normal throughout the State, and reservoir carryover is below normal as would be expected. The combined storage in 23 key reservoirs is 81 percent of average and 54 percent of capacity.

This condition did not develop overnight. Precipitation has been extremely low throughout the winter. Yet, the rationale for not requesting funds for the Emergency Conservation Program was that no additional needs were known and that funds remaining from FY 87 were adequate to assist farmers with damage from recent disasters.

Why were no funds appropriated for the impending drought in the western United States? How does the ASCS propose to assist farmers through this year's drought that now seems inevitable?

Answer: By law, the ECP may not be implemented until a natural disaster has occurred. For this reason, no requests for the program have been submitted and no funds allocated. ASCS will assist to the extent possible under existing legislation and with available funds.

SUGAR PROGRAM

Question: The Budget Summary report states that no changes in price supports are proposed other than for the sugar program. It is my understanding that the sugar program is self supporting and does not cost the government anything. If this is true, I fail to see how this proposal will help the budget deficit which is the usual reason for these reductions. What is the nature of the Administration's proposal and the reasons for such a proposal?

Answer: This Administration believes that the current price support program for sugar has created significant problems in the area of trade policy, foreign policy, and agricultural policy. It has also led to reduced sugar consumption and will, in time, result in the decline of the domestic industry.

The most important aspect of the Food Security Act of 1985 was a move to a more market-oriented agriculture sector. Domestic sugar policy is in direct conflict with this and other policy objectives for the following reasons: the quota system runs counter to a free trade policy; international trade tensions are fostered by reducing the quota; and there is a loss of foreign exchange in countries that are economically weak but vital to U.S. interests.

This Administration supports deficit neutral changes in this counter-productive program. These changes will be designed to make the program more market-oriented, reduce Government interference in trade, relieve American consumers of the burden of excessively high sugar prices and not unduly harm income in rural America. Our ultimate goal is an efficient and economically viable sugar industry. It may be smaller in size than that which presently exists, but it will be dynamic and competitive in the world market.

ELIMINATION OF ACP

Question: I notice once again that the Agricultural Conservation Program (ACP) is proposed for elimination. This budget has increased emphasis on the CRP, groundwater quality and rural development. The ACP attacks conservation problems without idling land which satisfies rural development needs without new initiatives. It also improves surface water quality which is important as well as groundwater. How will program objectives be met without this program in FY 1989?

Answer: No funding for the ACP is requested due to the need to reduce Federal spending. The Administration believes that conservation measures should be financed by State, local, and private sources. Approximately $438 million was appropriated by State and local governments for conservation programs in FY 1988.

Question: How can we be assured that the country will not experience increased erosion problems and reduced water quality without ACP?

Answer: We believe that producers will be able to address erosion and water quality problems with the financial assistance of nonfederal sources.

CONSERVATION RESERVE PROGRAM

Question: The Conservation Reserve Program (CRP) has very high levels of participation in counties in southeastern Idaho. Last year, I asked the Department of Agriculture to increase the acreage allowed in the CRP in Power and Oneida Counties. This request was granted and the limit was increased to 28.5 percent and 35 percent respectively. Because there is a significant level of participation in the CRP, farmers are very concerned about the immediate effects of the program on their community, and the long-term effect of the program on their farming operations. They want to know what to expect after the CRP.

Your office and the Economic Research Service (ERS) have provided some information on the effects of the CRP. This information has been in the form of ERS reports or summaries and it has been national or regional in scope. Also, most of the information evaluates what is happening on the farms.

I have received numerous letters from constituents about the effects of the CRP or potential effects of the program on farm-related businesses. While we knew these effects would accompany the CRP, I believe the estimates claimed the effects would be small. This is not the picture I am now getting from my State. While the CRP was intended to be long term, it was not intended to be irreversible. If the land is needed for production, we can change that part of the program. If the farm support industry is gone, that is more difficult to replace.

What long-term effects do you anticipate in communities where there is high participation in the CRP?

Answer: The communities should realize improved air and water quality as a result of permanent cover establishment and reduced usage of fertilizer and pesticide that could have been adhering to eroding soil particles. We do not anticipate significant long-term economic effects of CRP participation on these communities as a whole.

Question: What will become of acres set aside under the CRP after the program ends?

Answer: SCS is working with producers that may want to farm their CRP acreage again after contract termination. Producers must have an adequate conservation plan implemented prior to contract termination if they plan to return the area to a cropping sequence and be within the conservation compliance guidelines.

Question: How will the loss of tax revenue on these lands affect the overall communities?

Answer: Since USDA still considers these designated areas cropland and the participant receives annual rental payments commensurate with realized net income during the past few years, taxable income and land valuation should be relatively stable during the contract period.

Question: Can you provide information on what is currently happening to agricultural support industries in areas where there is heavy participation in the CRP?

Answer: Reports indicate a broadening of services rendered in some instances and the loss of clientele in others. Many businesses have remained solvent due to the large volume of CRP participation by local producers because they are no longer having to carry these producers financially and are receiving payments on accounts due. However, the sales levels of some farm supplies such as fertilizers or seeds will naturally decline due to a decrease in the acres planted.

Question: Do you have or have you seen any information about what farmers are buying with the rental payments or what sectors of the economy are benefiting as the farm suppliers are losing?

Answer: Farmers are participating in the CRP primarily to make mortgage payments and retain possession of their land holdings rather than sell or face foreclosure by lenders.

Question: With the reduction of animal damage control funding for driving geese and cranes away from small grain crops, alternative proposals for lure crops to lure birds away from grain fields have been suggested. Could the Conservation Reserve Program be used to establish fields of lure crops?

Answer: Permanent wildlife practices are eligible for installation on designated CRP acres. Also, producers may request permission from the county ASC committee to provide temporary food plots on CRP acres.

Question: Does this need to be included with the farm conservation plan?

Answer: Yes, wildlife practices must be included in the plan.

Question: Would or could this not be considered a wildlife habitat improvement project?

Answer: It could be a wildlife habitat improvement project so long as the permanently established cover is not destroyed to such an extent that an erosion problem is created.

QUESTIONS SUBMITTED BY SENATOR KASTEN

SWAMPBUSTER

Question: A question for both Mr. Hertz and Mr. Scaling. I continue to be concerned about reports of lax enforcement of swampbuster in certain areas of the country, particularly the Dakotas. It has been alleged by some that the denial of all farm program benefits to farmers in violation of swampbuster is a penalty so severe that county ASCS committees are simply ignoring some violations.

Please assess the degree to which swampbuster is being complied with nationwide, with particular respect to the prairie pothole region in the Great Plains. If it is not being complied with, what are you doing about it?

I want to reiterate what I said at an earlier hearing on this subject. It is not Congress' responsibility to change laws simply because they are unpopular or inconvenient for a relatively small group of people. While ASCS and SCS should, where appropriate, exercise flexibility to ensure that farmers are not wrongfully denied benefits, it is not the responsibility of these agencies -- including their local representatives -- to carry that flexibility to the point where the intent of the law is being ignored. If county committees or other representatives of ASCS are simply choosing to look the other way on violations of swampbuster, they -- not swampbuster -- are the problem that should be promptly addressed.

Answer: Not all apparent violations of the swampbuster law actually are violations. For example, drainage begun prior to December 23, 1985, is exempt. Drainage begun after that date is not a violation if the drained area is not farmed. Some farmers began drainage after enactment of the Food Security Act but before becoming aware of the swampbuster provisions. By not planting a commodity on the drained land, they remain eligible for program benefits.

Both SCS and ASCS are diligently trying to administer the swampbuster provisions as intended by Congress. In addition to investigating alleged violations reported by individuals and groups, county ASCS personnel have identified possible violations through a random spot checking system of producers requesting USDA programs benefits. County ASCS offices have also been issued operating procedures instructing them to consult with the U.S. Fish and Wildlife Service on pending "commenced" or third party determinations.

Question: On another subject: Mr. Hertz, the requirement in the fiscal year 1988 Continuing Resolution that CRP rental rates not exceed the prevailing commercial rental rate for comparable land has resulted in some confusion in Wisconsin. Some farmers may have submitted bids they thought acceptable under the former rules, only to find them rejected under the prevailing rate requirement. Others submitted bids for less per acre than they could have gotten under the new rules. And many farmers may have decided to sit out this signup.

What difficulties has the prevailing rate requirement placed on ASCS? Has it affected CRP signup? Should it be continued, or should we return to the pool system that determined acceptable CRP rental rates in 1986 and 1987?

Answer: The prevailing rate requirement has placed a larger responsibility on the local county committees and delayed issuing approvals to farmers approximately 2 weeks. Any procedural changes made in a program cause an effect on the program. Depending on how the change is perceived by the participant determines whether the requirement encouraged or discouraged signup participation in the CRP for the sixth signup. We administer the laws passed by the Congress and signed by the President and have no basis for recommending any change in legislation regarding rental rates at this time.

CONSERVATION RESERVE PROGRAM

Question: Mr. Dewhurst, throughout the life of the CRP it has been estimated that the program saved the government money: that is, the government spent less money putting land into the CRP than it would have spent under current farm programs had that land been used to grow program crops.

Can the program still be described as a money-saver for the government? At what point, under current eligibility rules, will we run into diminishing returns in this regard (i.e. will rental rates need to rise so high to attract bids that the difference between paying farmers CRP rental payments and paying them farm program payments will start to decline)?

Answer: CCC cost-saving estimates depend on base acreage removed from production and its associated target price and yield. An analysis conducted during the summer of 1987, using data from the first four signups, indicated that 68 percent of the acres enrolled in the CRP are reductions to commodity base acres. Estimates at that time indicated that the CRP could cost about $10.6 billion for FY 1986-92. Based on the 1987 commodity program provisions, the direct savings and the production adjustment effects were estimated at about $8.7 billion during the period. The $1.9 billion net cost of the CRP largely represents the cost of establishing permanent cover and nonbase acre participation.

We will be updating the CRP analysis for the two subsequent signups as part of the FY 1990 budget process. In addition to the expanded eligibility rules for filter-strips and the lower erosion criteria for tree plantings, we need to consider the effects of the zero-92 program and the appropriation act requirement that accepted bids be equal to or less than prevailing local rental rates for an acre of comparable land. Up to this time, the analysis has not examined the point of diminishing returns. It has largely concentrated on cost-effective means of meeting the acreage mandates in the Security Act of 1985.

Question: Mr. Dewhurst, many proposals have been made as to ways to expand the CRP, or at least the pool of eligible land. Could you evaluate the budgetary implications of these proposals, specifically:

- S. 2141, introduced by Senator Harkin.
- S. 2143, introduced by Senator Boschwitz.
- S. 2045, introduced by Senator Dole.

How much would these bills add to the CRP's cost? Would they create offsetting savings (e.g. reduced deficiency payments)?

Finally, are there proposals within USDA for expanding the pool of land eligible for the CRP, and could you discuss their budgetary implications?

Answer: We have not prepared a legislative analysis on any of these bills. Senator Harkin's bill, S. 2141, would expand eligibility to include agricultural drainage wells and naturally occurring sinkholes. Senator Boschwitz's bill, S. 2143, would expand eligibility to annually tilled cropland with one-third or more wetland or converted wetland. And, Senator Dole's bill, S. 2045, among other things would authorize a 20 million acre environmental conservation reserve program to protect water quality and wildlife habitat. Deputy Secretary Myers has testified that these proposals could be considered as part of the 1990 Farm Bill.

QUESTIONS SUBMITTED BY SENATOR GRASSLEY

EXTENDING PRODUCER GRAIN STORAGE LOANS

Question: I know the recent announcement by the Department not to extend producer grain storage loans has generated a great deal of controversy. I understand my colleagues have already questioned you about various aspects of this program. And although I do not wish to belabor the point, there is one point which I need addressed. My staff contacted several different people within the ASCS but could not get figures as to the projected costs of this change in policy. Information sent out by the Department states if CCC holds grain for a shorter period than farmers, "the accrued storage for CCC could be less than farmstored." My office was informed the cost of this program was what was included within the FY 1989 budget proposal. Is this correct? If this is correct, it indicates to me you have been considering this policy long before it was announced. Is this the case? If the answer is no, I am interested in seeing the figures used by the Department to evaluate their opinions of either extending these loans as announced under current policy.

Answer: Although the FY 1989 President's Budget assumed no loan extensions, a policy decision on whether or not to allow these extensions had not been made at that time. Subsequently, a policy decision not to allow loan extensions was issued. While some concerns have been raised that this decision will increase budgetary exposure by increasing forfeitures to CCC and therefore, associated storage and handling costs, this is not the case. Recent estimates of storage and handling costs show a decline from earlier estimates. Furthermore, savings of $230 million dollars in storage and handling costs, required by the Omnibus Reconciliation Act of 1987, will be achieved over fiscal years 1988 and 1989. The decision not to extend loans in no way jeopardizes these required savings.

A dramatic change in the wheat and feed grain markets where U.S. exports have shown a significant recovery influenced the decision not to extend these loans. "Free" stocks, those easily accessible to the market, are decreasing. 1987 crop ending CCC stocks have also decreased significantly as shown below in the change from July 1987 Mid-Session Review (MSR) Estimates to the February 1988 President's Budget (PB) Estimates:

	MSR	PB	Change
	- - Million	bushels - -	
Corn	2,335	1,750	-585
Wheat	803	450	-353
Soybeans	320	165	-155

Since a large share of grain stocks are either owned by CCC or are stored by producers under CCC programs, the export recovery we are now experiencing would be curtailed in the absence of action to access CCC-controlled stocks. Congress recognized this when it enacted legislation last December that lowered the minimum level for farm-owned reserve stocks. The decision not to extend loans, therefore, is intended to sustain the export recovery, and encourage producers who have such loans to use all marketing alternatives that exist, including exchanging certificates for grain that had been pledged for collateral for these loans. This will ensure market access to grain and help maintain U.S. grains competitiveness in both domestic and world markets.

1988 PROGRAM SIGNUP

Question: Several farmers within my State have expressed concern about the county ASCS office's ability to meet the demand created by the 1988 farm program signup. Your testimony includes references to this problem and mention of steps the department has taken to meet the demand. I am pleased to learn you are optimistic about overcoming this problem in the 1989 fiscal year. How is signup progressing to this point and is the Department doing anything to keep up with the demand placed on county offices?

Answer: Signup is progressing satisfactorily. County offices were instructed, via a notice issued March 4, to accept all offers to participate in the 0/92 program submitted by close of business on March 11. State offices were instructed to take whatever action they deemed necessary to accomplish this objective. Further steps will be taken to ensure that county offices are able to provide the necessary services needed by the producers within their respective counties.

CONSERVATION RESERVE PROGRAM

Question: You mentioned in your testimony the Department's recent announcement regarding the expansion of Conservation Reserve Program (CRP) eligibility. The Department's decision increases the protection of both soil and water in rural areas. Recently, along those same lines, I have worked with Senator Dole in presenting legislation to Congress which would further expand the Conservation Reserve Program. The bill, entitled the "Environmental Conservation Acreage Reserve Program," would expand the CRP to include acreage and practices which are potentially threatening to the environment. These problems would include ground water contamination, water quality, pesticide residue restrictions and soil salinity. The bill would also allow producers to substitute acreage placed in the conservation reserve and in the environmental reserve for required set aside acres. Mr. Hertz, have you or your staff had an opportunity to review S. 2045? If not, my staff will give you a copy.

What do you think about this approach of using the CRP as a means to control environmental problems in addition to our normal objectives of conservation and production control?

Answer: ASCS has reviewed S. 2045. The CRP, as authorized by the Food Security Act of 1985, provides for both direct and indirect benefits to some environmental problems. USDA recognizes this authority and has implemented program changes as necessary to obtain additional acreage and encourage additional benefits as appropriate to permit a successful multipurpose program.

SOIL CONSERVATION SERVICE

QUESTIONS SUBMITTED BY SENATOR BURDICK

SWAMPBUSTER

Question: Under the Swampbuster provision, I assume that SCS has been working overtime to make wetland determinations. To what degree are the farmers agreeing with or contesting your wetland determinations?

Answer: We do not have precise figures on the number of farmers who have contested the initial wetland determinations made by the Soil Conservation Service (SCS). At the national level, we have received 25 appeals on wetland issues as of March 21, 1988.

Question: I understand that SCS has almost completed the identification of wetlands in Eastern North Dakota. Please provide a status report on this project, and when you anticipate completion of the project.

Answer: The Food Security Act wetland inventory has been completed for all of the Red River Valley counties in North Dakota and Minnesota. In addition to the six valley counties in North Dakota an additional eleven Eastern counties in North Dakota will have been inventoried by the middle of April, 1988.

An evaluation of the project was completed by Soil Conservation Service and Fish and Wildlife Service employees during the week of March 14-18, 1988. The evaluation team agreed that the wetland inventory process as used by North Dakota and Minnesota is an excellent method of making wetland determinations. The Soil Conservation Service is considering expanding this effort to complete the mapping in other areas as needed.

Question: SCS's goal was to map the Red River Valley within 20 working days, beginning in January. If it took only 20 working days to complete this project, why was it not done earlier?

Answer: The request to map the entire Red River Valley was made in November, 1987. We decided to fund this accelerated effort in December, 1987. It took about a month to recruit the team and provide them with necessary training.

Question: You have informed me that SCS is not keeping records on how many times SCS has applied section 12.32 of the swampbuster regulations, which requires a comparison between natural wetlands area with converted sites. Is there any reason, in particular, why SCS does not maintain this data?

Answer: SCS does not believe it is necessary to maintain this data. This part of the rule is to be applied only in those situations where previous drainage or other alteration of the water regime is not clearly discernable. In other words, these provisions cover the unusual or exceptional situation. We do know that this procedure will work in those cases but we do not know how often it has been or will be used in the field.

Question: Do all agencies involved in the wetlands identification process agree that this process was done in a manner consistent with the intent of the 1985 farm bill?

Answer: SCS has the USDA responsibility for wetland identification. To date the USDA agencies have been in agreement that the process SCS uses to identify wetlands is consistent with the intent of the law. The USDA wetland conservation rule also requires SCS to consult with the U.S. Fish and Wildlife Service on matters of wetland identification. At this point in time, they are in agreement that the procedures specified in the rule will achieve the intent of the law.

CONSERVATION PLANS

Question: Producers have until January 1, 1990 to have an approved conservation plan developed on all highly erodible crop land in order to retain their eligibility for federal farm program benefits.

Has all of the highly erodible crop land been identified so that farmers know where they have to have a plan?

Answer: No, but we anticipate that over 90 percent of the highly erodible land determinations will be made by the end of this year. About 80 percent of the highly erodible determinations were completed as of December 31, 1987.

Question: How many farmers do you expect will need to implement the plans by 1990?

Answer: The only farmers that will need to implement their conservation plans by 1990 are those that "sodbust". They are required to implement the plan before they produce a crop on the sodbusted land if they wish to maintain their USDA benefits. Producers covered by the conservation compliance provision have until January 1, 1995 to fully implement their plans.

We estimate that about 1.0 million farmers with highly erodible cropland will participate in USDA programs and need to implement their conservation plans by Jan. 1, 1995.

Question: How many acres will be covered by these plans?

Answer: We estimate that approximately 165 million acres will be classified as highly erodible cropland fields in the nation. About 66 million acres of this land is in the Conservation Reserve Program or already has an acceptable conservation system applied, or will not be covered by any USDA program. About 90-100 million acres will need a conservation plan prepared by January 1, 1990.

Question: How many plans have been approved so far?

Answer: We have plans on about 33 million acres thus far.

Question: Does the Soil Conservation Service also work and approve conservation plans which apply to lands that are not highly erodible?

Answer: Yes we do. The Soil Conservation Service assists land users to develop conservation plans on all land uses, but only formally approves plans written for land treatment contracts and the conservation provisions of the Food Security Act. Included are the Great Plains Conservation Program, Rural Abandoned Mine Program, Watershed Program, and Long Term Agreements of the Agricultural Conservation Program.

CONSERVATION COMPLIANCE

Question: Many wheat farmers from across the country are telling me that interpretation of the conservation compliance regulations are very inconsistent from one county to the next. In some cases, farmers are able to gain approval for their conservation plans without significant disruption to their current management practices, and while still meeting the conservation objectives of the farm law. In other cases, local SCS agents are interpreting the compliance guidelines very stringently and allowing few reasonable alternatives to enable the farmer to come into compliance. In certain instances, farmers are even being required to construct terraces or other expensive practices, when no cost-sharing is available.

What are you doing to ensure more consistency and more reasonable interpretation of the conservation regulations throughout the SCS?

Answer: We are asking our state conservationists to provide each field office with the opportunity to identify the need for and develop alternative conservation systems. Alternative conservation systems are designed to make a substantial reduction in existing erosion rates, but are cost effective and practical for landowners to implement. The objective of the SCS is to assist landowners in maintaining compliance not to put them out of business. We believe alternative conservation systems will accomplish this purpose. Certain HEL fields are going to be expensive to treat, but they are the exception rather than the rule. Such fields have the option of bidding for the 10-year CRP rental contracts.

Question: Will you be reviewing appeals brought by farmers to identify districts where economic and technical feasibility guidelines are not being properly observed.

Answer: Yes, we will review appeals and follow up on letters of complaint from farmers who claim guidelines are not being properly observed. In addition we have asked each state conservationist to review the conservation treatment requirements in each county and establish alternative conservation systems as appropriate that will cause a significant reduction in soil loss and but are also economically and socially acceptable in the communities in which the farmers reside.

Question: The farm bill requires offsetting compliance between farms in determining whether a producer is in compliance with the conservation requirements of the law. Many farmers seem to be having trouble with this requirement, since many farmers rent cropland and cannot control the decisions of their landlords.

Do you believe a revision in the law, when it is reauthorized in 1990, to exclude offsetting compliance would be beneficial?

Answer: No, we do not believe a revision in the law is needed. Offsetting compliance is essential in the landowner-tenant situation.

QUESTIONS SUBMITTED BY SENATOR SASSER

RAMP WORK IN TENNESSEE

Question: Once again the Administration has requested zero funding for the Rural Abandoned Mine Program. As you know, I have fought yearly to have these funds reinstated, and I believe this is one of the most successful programs that the Soil Conservation Service has. Cleaning up abandoned mine sites should be a National priority of the Soil Conservation Service. Why have you not encouraged that this program be continued?

Answer: The proposal to eliminate funding for the Rural Abandoned Mine Program reasserts the Administration's policy to rely on the state reclamation grants program as the primary delivery mechanism for reclamation services.

Question: Abandoned mines create severe erosion and water quality programs. A report issued by the Environmental Protection Agency recently noted that the largest cause of stream pollution in Tennessee was abandoned mine sites. As you may know, Tennessee is not a program state under the Office of Surface Mining and depends heavily on RAMP funds. What do you propose that Tennessee and other non program states do in the case that is discontinued?

Answer: Non-program states are encouraged to work through the Office of Surface Mining to establish eligibility to receive reclamation grant funding. The Department of Interior has requested $159.1 million for the Abandoned Mine Reclamation fund. We understand that they have set aside $2.7 million for states which develop approved programs.

SCS STAFFING AVAILABLE FOR FSA WORK

Question: I am pleased to see an increase in funding for technical assistance under Conservation Operations of the Soil Conservation Service. In the past, you know that local offices have had difficulty in maintaining some of their ongoing activities while implementing the operations called for in the 85 Farm Bill. Do you believe that this additional funding will provide for sufficient staff to meet all these needs?

Answer: The additional funding requested in 1989 for our Conservation Operations activities is for increased pay, retirement, and operating costs to permit us to maintain about the same level of staffing in 1989 as we expect to have available in 1988. We believe that we do have sufficient staff to carry out our responsibilities under the 1985 Food Security Act and to maintain some level of assistance for other ongoing conservation activities. However, the Food Security Act work is our highest priority, and it is likely that in areas of the country where this workload is extensive, there will be less assistance available for other conservation program work during this time. With the help of the entire conservation partnership and some improvements in our own productivity, we believe we can manage this workload with the resources that are available.

SOURCES OF FUNDING FOR WATERSHED PLANNING AND CONSTRUCTION

Question: I have been informed by the Soil Conservation Service in Tennessee that their efforts will be severely hampered by the budget reductions called for in Water Resource Management and Protection. In reviewing obligations for fiscal year 1989, I notice that Tennessee will receive only half of the funding which it received in fiscal year 1988, while there are still water projects unfinished across the State. I also noticed that the reduction is similar for other states. Where can these states turn for funding for vital operations such as watershed planning and construction?

Answer: The lower funding level proposed in the budget would not eliminate assistance for the water resources program. The Soil Conservation Service would continue to plan and construct high priority projects. The reduced funding would, however, increase the length of time that it would take to complete unfinished work. If the States wanted to accelerate high priority projects, local sponsors could take the appropriate actions needed to obtain additional funds from bond issues, loans, and/or grants available from local, State and other Federal programs.

QUESTIONS SUBMITTED BY SENATOR BUMPERS

RURAL ABANDONED MINE PROGRAM IN ARKANSAS

Question: The RAMP reclamation program has proven tremendously beneficial to west central Arkansas. I have been a strong supporter of this program, both here and in the Interior subcommittee. However, I am concerned that SCS has dropped its full support for RAMP. What are SCS plans for this program in FY 89? For Arkansas?

Answer: The 1989 budget request proposes to eliminate all funding for the RAMP program in 1989 and to rely instead on the state reclamation grants program requested at $159 million and administered by the U.S. Office of Surface Mining as the primary delivery mechanism for reclamation services. Priorities for reclamation work, including RAMP projects, would be determined by the state.

ARKANSAS EMERGENCY WATERSHED PROTECTION NEEDS

Question: In December of last year, Arkansas was devastated by flooding that crippled the state's bait fish industry, causing $22 million in immediate damages, including damage to 300 miles of fishpond and other levees. Sixty-five producers, accounting for 80 percent of the nation's bait fish production, received timely assistance from the Arkansas SCS through the Emergency Watershed Protection (EWP) program. But, I am concerned that the National Office is not going to fully back this commitment to my producers. Can you assure me of the National Office's full cooperation and financial support?

Answer: You can be assured our National Office is doing everything it can to accomodate the needs of your producers consistent with law governing operation of the Emergency Watershed Protection program and the availability of funds. Between December 30 and February 24 the National Office of SCS (NHQ) approved proposed actions and allocated funds for about $511,000 in exigency work to relieve immediate threats to life and property. Since then an additional $500,000 has been allocated to Arkansas to complete exigency work. On February 2nd, two members of our Project Development and Maintenance Division, both of whom are watershed engineers with broad experience, toured Lonoke and Prairie Counties to assist the Arkansas state staff in determining eligibility for non-exigency assistance.

Under the EWP program SCS can assist state and local governments to repair damage to streams and waterways resulting from a sudden watershed impairment. The service is limited to restoring the same level of protection of life and property from stream flooding as existed before the emergency. The only threat to bait fish farms located in the area is additional contamination of rearing ponds from outside stream flows. Restoration of the exterior levees and dikes (those that protect the land from high stream flows) will provide the same level of protection from contamination of ponds as existed before the storm and is the only work remaining to be done that qualifies for EWP assistance.

Restoration of the interior levees (those that divide the land into water holding ponds) would constitute improvements to, or maintenance of, private property and is not essential to reducing threats to life or property caused by a sudden watershed impairment. Damage to the interior levees resulted from wave action. This damage is similar to cropland scour damage from severe storms and does not qualify for EWP assistance. SCS does not have authority under the EWP program to rehabilitate farmland or related farm production facilities. It is our understanding that producers have approached the Agricultural Stabilization and Conservation Service for financial assistance in rehabilitating their production systems under provisions of Section 401, of Public Law 95-334.

Emergencies in Puerto Rico, Hawaii, Mississippi, Arkansas, and the trust territories of the Pacific have depleted available fiscal year 1988 Emergency Watershed Protection funds. The non-exigency work in Arkansas will be evaluated against other emergency needs and it will be undertaken if sufficient funds are available.

BUDGET SUMMIT AGREEMENT AND PROPOSED FUNDING FOR WATER RESOURCES

Question: The Watershed and Flood Prevention Operations program has consistently been slashed in the Soil Conservation Service budget request, and Congress has consistently reinstated the money for this important program. How is your FY 1989 budget request in keeping with the spirit of the White House-Congress summit agreement that henceforth budget requests will no longer contain items known to be confrontational?

Answer: The FY 1989 budget request was proposed to honor the White House-Congress summit agreement and avoid confrontation with the Congress. It differs from past budgets by proposing to continue the Watershed and Flood Prevention Program rather than terminating it. The funding level proposed for this and some other programs has been reduced from current levels in order to fund as many high priority Federal programs as possible and meet the agreed to deficit ceiling for FY 1989.

FUNDING FOR ARKANSAS WATER RESOURCE PROJECTS

Question: If the Soil Conservation Service prevails in its request, how will Arkansas be affected?

Answer: It is estimated that federal funding for watershed and flood prevention operations work would be reduced by about forty-six percent in FY 1989. Installation of ongoing high priority projects would continue, and lower priority work would be installed in later years as funds permit. No new planning or construction starts would be initiated in FY 1989, but they could be initiated in future years for high priority work or in response to urgent National resource concerns.

LIAISON WITH AUSTRALIAN CONSERVATION PROGRAM

Question: Jack Davis, who served Arkansas well as our former State Conservationist, spent the last year in Australia as a SCS liaison with the Australian SCS. I know that Jack discovered many areas, including plant materials work, that could be beneficial to SCS work in the U.S. I am interested in knowing how the SCS is going to utilize the knowledge Jack acquired?

Answer: Jack Davis has returned to our South National Technical Center in Fort Worth, Texas. One of his duties will be to transfer the technology he observed in Australia to United States conditions. We feel Jack had an outstanding assignment working with the Soil Conservation Service of New South Wales. He documented many of his observations in monthly reports of his activities. Currently, he is preparing an end-of-tour report that will be circulated within our Agency. We hope that some of his observations will be incorporated into Agency policy, technical manuals and national bulletins.

In addition to developing stronger relationships with the Soil Conservation Service of New South Wales, Jack Davis also paved the way for three technical teams to visit Australia in the area of range conservation, geographic information systems (GIS) and plant materials. The Australians are doing advanced work with plant materials on semi-arid grazing land and coastal dune management. Additionally, in relationship to GIS, they are utilizing remote sensing and satellite imagery to monitor rangeland conditions. Also, they are utilizing water ponding for the establishment of vegetation on denuded areas.

QUESTION SUBMITTED BY SENATOR COCHRAN

MEETING WATER RESOURCE PROGRAM OBJECTIVES

Question: Your 1989 budget proposes nearly a fifty percent reduction in the water resource management and protection program. Two reasons are given for this reduction. First, to limit federal spending, which I, and I am sure all members of this committee, favor. The second reason indicates the merger of river basin survey and investigation activities and the watershed planning and construction activities into a single water resources appropriation will be more effective and efficient in meeting program objectives. Could you please explain how program objectives can be met more effectively with this budget reduction?

Answer: The immediate objective of the proposed merger is to continue high priority studies, plans and construction projects in FY 1989 and beyond at a reduced level of funding without having costly reduction-in-force actions. The overall objective is to more effectively respond to program needs at any funding level. The merger would simplify program and financial management and provide greater flexibility to meet these objectives. If the proposal is accepted, the next couple of years would be used to balance staffing needs and cost-sharing at the overall $116 million level. High priority program operations would continue for ongoing studies, plans and projects. In future years, new planning and construction starts could be initiated for high priority work or in response to urgent National resource concerns. Local sponsors could accelerate this work by contributing additional resources.

QUESTIONS SUBMITTED BY SENATOR MCCLURE

TECHNICAL ASSISTANCE AVAILABLE TO FARMERS

Question: I am pleased that the proposed FY 1989 budget includes additional funding for technical assistance, soil and snow surveys, and plant materials centers programs. However, it is my understanding that even with the increased funding, it will only maintain the current 1988 level of operation.

The farmers of this country have a lot riding on completion of the farm conservation plans by 1990, but they cannot meet this obligation without adequate technical assistance and available information. It is unrealistic to assume that the states will be able to provide additional resources for this purpose.

Based on the increased demands that will be placed on the Soil Conservation Service for technical assistance to meet the requirements of the Conservation Title of the Farm Bill, what steps are being taken to see that there is an adequate level of technical assistance in view of the proposed level of funding?

Answer: Several steps have been taken to assure that adequate technical assistance is available to implement the conservation provisions of the Food Security Act (FSA).

1. We have provided training to insure that our people are well versed in the requirements of the FSA and can be as productive as possible.

2. We have worked closely with states to insure efficient and effective management of the field offices.

3. We have developed computer software which will assist our personnel in developing FSA plans and tracking progress made in implementing the plans.

4. We have employed temporary part time personnel, used limited instate temporary details, overtime, contracts and agreements to meet deadlines.

5. We are staying in close contact with our program managers in each state to monitor their progress in implementing the FSA and to identify any obstacles that need our attention.

6. We contracted with the University of Illinois for the development of a "group planning process package." This package has been used successfully in many places already and has increased our efficiencies significantly.

CONSERVATION PLANS

Question: In your testimony, you state that the FY 1989 request will keep the SCS on target to completing all farm plans by 1990. How well did your 1987 accomplishments match your 1987 plans for completing farm plans?

Answer: In 1987 we projected that we would complete about 30 percent of conservation plan development and/or approval. We actually completed about 25 percent. We believe this slight delay in schedule is primarily attributed to the delay in publishing of the final rules. Many producers wanted to be sure of the requirements before entering into a plan.

Question: Do you anticipate a last minute rush to complete plans by 1990?

Answer: Yes, but not because there isn't technical assistance available to develop the plans at an earlier date. Some farmers will put off requesting their plan expecting that the deadlines are going to be extended or eliminated altogether. We are doing everything possible through our information and education efforts to urge farmers to move ahead.

STATUS OF IDAHO WATER RESOURCE PROJECTS

Question: Once again a significant reduction in water resource management and protection funding is proposed. I too support the need to reduce or limit federal spending. However, I have difficulty supporting reduction in water programs when, at least in Idaho, many problems remain.

Idaho currently has an unfunded commitment of approximately $6,900,000 in 13 Watershed Protection and Flood Prevention Act projects (PL-83-566). Construction has been completed on one of the projects. What is the status of the remaining Idaho Projects?

Answer: Construction of the Montpelier Watershed in Bear Lake County is complete. At the request of local sponsors, SCS is considering the need for cost-shared land treatment in the project areas. Sponsors are seeking funds. Construction of the water storage reservoir in the Brundage Irrigation Project will be completed this spring. Installation of the on farm irrigation systems is scheduled for fiscal years 1989 through 1993 at an estimated federal cost of $990,000. The Brundage project is 58 percent complete. Idaho has 11 additional authorized watershed protection projects in various stages of development. In general, the first three to five years are spent planning and negotiating long term contracts with individual land users. Contracts are written for a three to ten year term. Another three to five years is required to install the conservation measures and monitor progress of the land owners. The status and current schedule for these 11 projects, assuming level funding, is as follows:

Project Name	County	Percent Complete	Scheduled Installation By Fiscal Year	Remaining Federal Cost $
Sublett	Power	98%	88-93	75,000
Hazelton Butte	Jerome	88%	88-93	116,000
Summit	Power Oneida	46%	88-94	102,000
Roy East	Power	73%	88-95	185,000
Upper Sand	Bonneville	42%	88-95	670,000
Thorn Creek	Latah	55%	88-96	625,000
Big Canyon - East Fork	Power	42%	88-96	445,000
Houtz Outlet	Power	18%	88-96	945,000
Lower Sand	Bonneville Bingham	18%	88-96	1,290,000
Tensed Lolo	Benewan	17%	88-98	931,000
Tammany Creek	NezPerce	0%	89-98	526,000
				$5,910,000

FUNDING FOR IDAHO WATER RESOURCE PROJECTS

Question: How do you intend to fulfill these obligations if the funds available for these projects are reduced by $65.5 million as proposed by the Administration?

Answer: The highest priority ongoing projects would continue to be installed within the funds available. Deferred projects would be installed in later years. Local sponsors could seek other funds and provide additional resources to accelerate the rate of installation at the lower federal funding level.

QUESTIONS SUBMITTED BY SENATOR KASTEN

CONSERVATION PLANS

Question: A continuing concern of mine and of my constituents in Wisconsin is whether SCS has now and will have in the future adequate personnel and other resources to enforce the provisions of the 1985 farm bill's Conservation Title. I am concerned, not only by the delays in making wetland determinations for swampbuster, but also by reports of backlogs of farmer requests for assistance in developing a conservation plan for their farms. A conservation plan is necessary for those farmers cropping highly erodible land to be in compliance with the conservation compliance requirement of the farm bill. Can you assure the Subcommittee that SCS has adequate resources to meet the demands placed on it by the Conservation Title?

Answer: Yes, we believe we do have adequate resources to meet the requirements of the Food Security Act provided that farmers do not delay in requesting our assistance. Our field staff is concentrating first on completing the highly erodible land determinations. As these determinations are completed, the farmers are notified if they have highly erodible land and a need for a conservation plan. The fact that there are some backlogs developing is, we believe, a good sign that landusers are aware of their responsibilities and are moving ahead to get the job done.

Question: Continuing on this subject, Mr. Scaling, can you tell the Subcommittee approximately how many conservation plans SCS has worked out to this point with farmers around the country?

Answer: The Soil Conservation Service has assisted producers in the development of conservation plans on about 220,000 farms covering about 33.1 million acres.

Question: How many do you have yet to work out?

Answer: We estimate that about 800,000 farmers need to develop a conservation plan by January 1, 1990.

Question: About how much acreage is involved?

Answer: We estimate that about 90-95 million acres of HEL cropland need approved conservation plans.

Question: Are there some parts of the country where SCS is farther along than in others? Which ones?

Answer: Several states have completed or nearly completed identifying all of the highly erodible cropland within their state and are well on their way in the development of the conservation plans. Two such states are Kansas and Nebraska.

Question: Can you give the Subcommittee an indication of the average cost to the farmer of working out and implementing a conservation plan? I recognize this question does not admit of a simple answer; many variables are involved. Please discuss these.

Answer: We estimate the average cost of applying a conservation system to highly erodible cropland to range from $3 to $14 per acre on an annualized basis depending upon the acceptable conservation system selected by the farmer.

SWAMPBUSTER

Question: A question for both Mr. Hertz and Mr. Scaling. I continue to be concerned about reports of lax enforcement of swampbuster in certain areas of the country, particularly the Dakotas. It has been alleged by some that the denial of all farm program benefits to farmers in violation of swampbuster is a penalty so severe that county ASCS committees are simply ignoring some violations.

Please assess the degree to which swampbuster is being complied with nationwide, with particular respect to the prairie pothole region in the Great Plains. If it is not being complied with, what are you doing about it?

I want to reiterate what I said at an earlier hearing on this subject. It is not Congress' responsibility to change laws simply because they are unpopular or inconvenient for a relatively small group of people. While ASCS and SCS should, where appropriate, exercise flexibility to ensure that farmers are not wrongfully denied benefits, it is not the responsibility of these agencies--including their local representatives--to carry that flexibility to the point where the intent of the law is being ignored. If county committees or other representatives of ASCS are simply choosing to look the other way on violations of swampbuster, they--not swampbuster--are the problem that should be promptly addressed.

Answer: There is no question that the penalty for violation of the "swampbuster" provisions is severe, but we are dealing with a sensitive resource that needs protection. The wetland provisions do not stop a farmer from farming wetlands just as he or she did prior to December 23, 1985. What the regulations do prevent is further alteration of wetlands for the production of an agricultural commodity in situations where the land user wishes to maintain eligibility for USDA program benefits. With the exception of long term FmHA loans, the penalty is an annual one; that is, a farmer may lose eligibility this year but regain eligibility the next crop year.

We have different reports from different groups about the degree to which farmers are complying with the swampbuster provisions in the prairie pothole region of the Great Plains. Farm groups say the provisions are too tough and not reasonable; environmental groups say compliance is lax.

SCS makes a technical determination of wetlands or converted wetlands and ASCS based on this information determines program eligibility or ineligibility. As of Feburary 5, 1988 SCS made 45,887 wetland determinations. We understand that 5 persons have been determined ineligible for USDA program benefits. This does include those landowners who simply do not plant an agricultural commodity on the converted wetland.

Question: About what is the rate of wetlands drainage for purposes of conversion to the production of agricultural commodities, including those (e.g. oranges) not defined as such by the 1985 Food Security Act? How does it compare to the rate of drainage before passage of the Act? In other words, what has the impact of swampbuster been?

Answer: SCS does not have reliable data on the rate of wetland conversion prior to FSA. We have determined that 63,802 acres of wetlands were converted on 3,849 farms since the passage of the farm bill. Prior to FSA we did not track wetland drainage thus a comparison cannot be made between pre and post FSA. However, estimates from other sources showed agricultural conversions to account for 260,000 to 390,000 acres annually from the mid 1950's to mid 1970's.

Question: To conclude on this subject: I have asked for a great deal of technical information in the above questions, much of which your agencies may not have access to. Indeed, the answers to some of these questions may not now be known by anyone. I think it is important, however, that we find those answers, so that we may better enforce the provisions of the Conservation Title and also know what the impact of the those provisions is or is likely to be.

Does SCS have the resources to determine the impact of swampbuster, the average cost of implementing a conservation plan, and the other questions I have raised? If not, would it be helpful to involve other agencies (e.g. ERS, GAO, Fish and Wildlife Service or OTA)?

Answer: SCS has the know how to identify and monitor the number and amount of wetlands that aren't converted as the result of direct technical assistance. It is difficult to determine what portion of a conservation system is being applied by the landowner because of his desires and what portion is being applied due to FSA..

Given the present workload imposed on the agency by the conservation provisions of the 1985 Food Security Act, it would be very difficult to establish a tracking system that would define the total impact of swampbuster on the Nation's wetlands. We do have good data for those farms where wetland determinations have been completed. These data include number of farms with wetland, acres of wetland, number of farms with wetlands converted after December 23, 1985 and acres of converted wetlands. Tracking the average cost of implementing a conservation plan would be much more difficult because many practices are installed using the farmer's time and equipment. Establishing values for the use of farmer's resources is no easy task.

QUESTIONS SUBMITTED BY SENATOR GRASSLEY

CONSERVATION PLANS

Question: You testified about the Soil Conservation Service's success in identifying highly erodible land and verifying existing conservation plans. Do you foresee any problems with meeting the December 1989 deadline imposed by the 1985 Food Security Act for having conservation plans filed with the SCS?

Answer: At this time we believe that we will be able to meet the December 1989 deadline for completing conservation plans on highly erodible lands. Our goal is to complete 65 percent of the plans by the end of calendar year 1988 and the remaining 35 percent in 1989. We are monitoring our progress on a quarterly basis so that appropriate action can be taken should any problems develop.

ENVIRONMENTAL IMPACT OF CRP

Question: Would it be useful to take the 45 million acres required by the CRP out of highly erodible land, or could we place a greater emphasis on environmental concerns, and take out land that would help resolve these problems?

Answer: The environmental impacts of removing highly erodible land from production are often overlooked. These acres had been eroding at rates well in excess of the average, delivering high tonnage of soil and nutrients to our nation's lakes and streams. For the 23 million acres already in the CRP, about 20 tons per acre of annual erosion has been stopped. The areas are now established in permanent cover and no longer treated with the high levels of fertilizers needed to maintain productivity on the highly erodible cropland.

The recent inclusion into the CRP program of land placed in filter strips indicates an increased emphasis on environmental concerns. Also, under consideration is the inclusion of overwash areas in flood plains in the Conservation Reserve Program (CRP).

We do, however, need to continue to address environmentally acceptable treatment of land while keeping it in crop production.

Questions Submitted by Senator Hatfield

NATIONAL TECHNICAL CENTER

Question: Please detail the historic staff levels at each of the four technical centers, the staff levels at the beginning of the fiscal year, the current staff levels and your plans to fully staff each of the centers.

Answer:

Technical Center	FY83	FY84	FY85	FY86	FY87	FY 1988 10/1	 3/18	 planned 9/30
Northeast	69	69	71	60	56	57	57	70
South	307	278	291	271	262	254	254	273
Midwest	136	130	143	126	107	127	127	141
West	116	108	105	98	88	85	85	104
	628	585	610	555	513	523	523	588

IRRIGATION EROSION

Question: Because soil erosion is such a serious national problem, I have explored various legislative solutions to limit its effects. I was surprised to learn that SCS currently has the capability to measure erosion caused by wind and rain but not by irrigation. What research now is being done in the area of setting standards for measuring erosion caused by irrigation?

Answer: SCS and the Agricultural Research Service are cooperating in the development of a model called Water Erosion Prediction Project (WEPP) which will replace the Universal Soil Loss Equation (USLE) now being used. An irrigation erosion prediction capability is being added to this model. This will place the water and irrigation induced erosion in the same model. Verification as well as refinement to the model will be accomplished by SCS through field testing to improve its accuracy for other soils, crops, methods of irrigation and climatic conditions.

In addition, SCS has developed a computer model to predict erosion on furrow irrigated fields and another for sprinkler irrigation. These models were developed with limited data so are only applicable for the locations where data was collected. They have not been tested in other locations.

Question: Could increased funding in FY 1989 hasten the time needed to develop such a standard? If so, how much would be needed?

Answer: Sufficient funding is available to proceed with this work as planned.

SUBCOMMITTEE RECESS

Senator BURDICK. This ends today's hearing. Our next hearing will be held next Tuesday, March 22, at 10 a.m. in this same room. At that time we will hear from the representatives of the Foreign Agricultural Service, the Office of International Cooperation and Development, and the General Sales Manager's Office.

This Committee now stands in recess.

[Whereupon, at 11:06 a.m., Tuesday, March 15, the subcommittee was recessed, to reconvene at 10 a.m., Tuesday, March 22.]

AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1989

TUESDAY, MARCH 22, 1988

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m., in room SD-138, Dirksen Senate Office Building, Hon. Quentin N. Burdick (chairman) presiding.

Present: Senators Burdick, Specter, Cochran, and Grassley.

DEPARTMENT OF AGRICULTURE

STATEMENT OF RICHARD GOLDBERG, ACTING UNDER SECRETARY FOR INTERNATIONAL AFFAIRS AND COMMODITY PROGRAMS

ACCOMPANIED BY DENNIS KAPLAN, OFFICE OF BUDGET AND PROGRAM ANALYSIS

OPENING REMARKS

Senator BURDICK. Good morning, ladies and gentlemen.

This morning, the Subcommittee on Agriculture, Rural Development, and Related Agencies, continues its hearings on the President's fiscal year 1989 budget proposal for the Department of Agriculture.

Our invited representatives today are Richard Goldberg, Acting Under Secretary for International Affairs and Commodity Programs; Thomas Kay, Administrator of the Foreign Agricultural Service; Joan Wallace, Administrator of the Office of International Cooperation and Development; Melvin Sims, General Sales Manager at the Department; and Dennis Kaplan from the Budget Office.

Welcome to you all, and thank you for joining us.

Whether negotiating international agreements abroad, debating policies for trade legislation in Congress, or securing contracts with foreign nations for U.S. commodities, the Foreign Agricultural Service plays a pivotal and indispensable role in promoting American agricultural trade. Since the 1985 farm bill, FAS was granted authority over several new and expanded trade incentive programs, and based on recent reports, has been doing a remarkable job.

Recent forecasts for 1988 estimate U.S. agricultural exports valued at $32.5 billion and an agricultural surplus of $12 billion. This progress has caused many to ask how we might sustain our favorable position in the world marketplace and seek improvement where new markets might be opened to U.S. agricultural commodities.

While FAS should be congratulated on its successful promotion of U.S. agricultural exports, some have suggested that more evaluations and oversight should be conducted before final decisions are made on whether to double or triple the amount of funds flowing into export assistance programs.

Regardless of the outcome of many of the policy debates, FAS and the General Sales Manager should be commended for 2 years of exemplary performance in the administration of recent food aid and trade legislation.

The Office of International Cooperation and Development also plays a vital role in representing U.S. agriculture abroad. Through technical training, development, and exchange programs coordinated by OICD, the United States continues to maintain and expand good relations with agricultural scientists and officials in foreign nations. Cooperation is often the key to success in tackling difficult agricultural problems.

Your statements will be made a part of the record, and I ask you to summarize them. We look forward to your testimony.

Our first witness is Mr. Goldberg, who hails from the great state of North Dakota.

STATEMENT OF RICHARD GOLDBERG

Mr. GOLDBERG. Thank you, Mr. Chairman.

There is a little laughter in the audience, Mr. Chairman. so you and I will have to override that.

Mr. Chairman and members of the committee, I am very pleased to be here this morning to present the 1989 budget for the Foreign Agricultural Service, and the General Sales Manager's Office under FAS, and the Office of International Cooperation and Development.

I might also say, Mr. Chairman, on a personal basis that this will be my last time appearing before your subcommittee on a budget matter, presenting our 1989 budget today. And I would like to take this opportunity to thank you and the other members of the committee for the fine cooperation and assistance you have given us in the 4 years that I have been privileged to serve the administration and certainly for the last 8 months that I have been the Acting Under Secretary.

INTRODUCTION OF WITNESSES

Mr. Chairman, I have with me today Tom Kay, the Administrator of the Foreign Agricultural Service; Mel Sims, the General Sales Manager of FAS; and Dr. Joan Wallace, the Administrator for the Office of International Cooperation and Development. These people will present more detailed statements to you, Mr. Chairman, and cover in detail their budgets and proposals for 1989.

EXPORT PROSPECTS IMPROVE

Both the value and the volume of U.S. agricultural exports, as you have rather ably pointed out, are expected to be up sharply in fiscal year 1988, continuing the progress we have made in regaining foreign markets in the 2 years since the enactment of the 1985 farm bill. Provisions of the act include those related to the Department's export programs, and they are proving successful in restoring our ability to compete in the international marketplace.

To ensure that these gains are sustained over the long term, we are actively working to achieve agreement on international agricultural reform as part of the multilateral trade negotiations presently underway in Geneva.

A successful conclusion to these negotiations will provide for a more open, flexible, and equitable system of international trade, offering expanded opportunities for agricultural growth and trade.

Bilateral negotiations with a number of important trading partners are also continuing in order to secure reduced import barriers and expanded export opportunities for our agricultural products in these markets.

BUDGET PROPOSAL

Our fiscal year 1989 budget proposals are designed to continue these activities and build on the recent progress that we have made. As with all the Department's programs, however, our proposals are tempered by the need to reduce the federal budget deficit and meet the Gramm-Rudman-Hollings Act deficit reduction target for fiscal year 1989.

For CCC export credits, we are proposing program levels for short- and intermediate-term credit guarantees which we believe will be adequate to meet the program's market development and export promotion objectives during fiscal year 1989.

In the case of short-term guarantees, this involved reductions to the level mandated in the Food Security Act of 1985. However, the level that we are proposing for fiscal year 1989 still exceeds the program's annual level of sales activity during each of the past 3 years.

In addition to CCC export credit programs, our export promotion efforts will be assisted by a number of other programs and activities during 1989, including the Export Enhancement Program. We are proposing a program level for Public Law 480, Food Assistance, which will provide for the shipment of approximately 6.7 million metric tons of commodities. While this represents a modest reduction from the tonnage to be programmed this year, it is expected the world's food aid needs will be reduced next year as agricultural production, particularly in Asia, recovers from this year's drought-reduced levels.

Market development activity supported by the Department will be increased substantially next year due to an expanded Targeted Export Assistance Program.

The TEA Program provides valuable export promotion assistance for a broad range of agricultural products. It will increase from $110 million this year to a proposed level of $295 million in fiscal year 1989.

For the Foreign Agricultural Service, we are proposing a program level which is somewhat reduced from this year's enacted level. However, our proposal is an increase over the level we requested last year for fiscal year 1988 and will be adequate to maintain the agency's current staffing level which has recently been increased.

We are proposing funding for the Office of the General Sales Manager, which is slightly above the fiscal year 1988 level. This will ensure that the Department's export programs, which are carried out by the General Sales Manager's Office, will continue to be implemented effectively.

For the Office of International Cooperation and Development we are proposing to continue most of the agency's activities at current level in fiscal year 1989, including OICD's administration of international scientific and technical exchanges and its work with the International Food and Agricultural Organization.

Technical Assistance and Training Activities, which are funded on a reimbursable basis, primarily by the Agency for International Development, are also expected to continue at current levels in fiscal year 1989.

Mr. Chairman that concludes my opening remarks. And I would like to refer now to Mr. Kay as the Administrator of FAS.

I will be here, incidentally, Mr. Chairman.

Senator BURDICK. Thank you.

FOREIGN AGRICULTURAL SERVICE

STATEMENT OF THOMAS O. KAY, ADMINISTRATOR

ACCOMPANIED BY:

ANN VENEMAN, ASSOCIATE ADMINISTRATOR

JOHN W. WILLIAMS, DEPUTY ASSISTANT ADMINISTRATOR, MANAGEMENT

BUDGET REQUEST

Senator BURDICK. Mr. Kay.

Mr. KAY. Thank you, Mr. Chairman and members of the subcommittee.

I appreciate the opportunity to meet with you to discuss the work of the Foreign Agricultural Service and to present our budget request for fiscal year 1989.

This is going to be a banner year for agricultural exports. Farm programs have been adjusted so that U.S. commodities are now in a better marketing position, the dollar is priced attractively against currencies of a number of key importing and competitor countries, and supplies of most commodities are ample to meet buyers' needs.

As a result, U.S. foreign exports should increase 16 percent to $32.5 billion in fiscal year 1988 and rise one-tenth in volume to 142.5 million metric tons. On a percentage basis, that is on a par with the annual gains experienced many years during the 1970's.

The optimistic forecast for exports also points to a very positive trade balance for agricultural items. With agricultural imports expected to continue at the 1987 level, the 1988 U.S. agricultural trade surplus should reach $12 billion, bettering last year's figure by nearly $5 billion.

The Export Enhancement Program and the Targeted Export Assistance program have helped U.S. exporters meet subsidized competition in world markets. Credit guarantee programs and market development efforts have helped expand existing markets and develop new ones. The Food for Peace Program has helped to provide food assistance and long-term credit to needy countries.

MULTILATERAL AND BILATERAL TRADE NEGOTIATIONS

For Trade Policy, the past year has been one of significant progress in the Uruguay Round of the GATT negotiations on agriculture.

The United States presented a proposal to the GATT for world agricultural reform. It calls for phasing out all trade distorting subsidies and market access barriers in order to seek fundamental reform of domestic policies which provide extensive support to agriculture.

It also seeks international harmonization of health and sanitary regulations while urging all of the world's trading nations to adopt the U.S. proposal for bringing about freer and fairer trade. We are also working bilaterally to improve trading conditions for U.S. exporters.

We have, for example, negotiated a free trade agreement with Canada that, if approved by the Congress and the Canadian Parliament, will eliminate all tariffs and many other trade barriers between our two countries.

We have been working with the European Community on important access and subsidy issues, such as the proposed EC consumption tax on fats and oils that would hurt U.S. soybean exports and EC subsidies for pasta exports to the United States.

We are also pushing forward with the American Soybean Association's 301 petition against the European Community's oilseed regime. Negotiations with Mexico have been completed on an agreement that establishes principles for bilateral trade and investment.

We have worked with Japan on trade problems affecting many U.S. farm products and the outcome should help U.S. wine, cherries, chocolate, walnuts, and other products. We, of course, continue our efforts to liberalize their imports of beef and citrus.

FOREIGN MARKET DEVELOPMENT

FAS continues its 30-year commitment to market development through our work with more than 130 agricultural firms, producer groups and state departments of agriculture to develop and expand commercial export markets.

Promotion activities jointly financed with these groups include trade servicing, training and education programs, international exhibits, advertising, merchandising, and trade missions.

FAS also provides exporters with computerized trade leads, and other marketing and information services.

Market development was given a significant boost by the Targeted Export Assistance Program. Efforts now encompass versatile and imaginative marketing activities for virtually every U.S. farm product sold overseas.

BUDGET REQUEST

The fiscal year 1989 budget proposal for FAS is $89.1 million. The budget proposes a $3.2 million decrease in foreign market development activities from the level appropriated in fiscal year 1988. However, we must keep in mind that, in total, the budget is approximately $6 million above the levels available in fiscal year 1987.

Overseas and domestic inflation, as well as the annualized costs of the fiscal year 1988 pay raise, will be absorbed to some extent from the effects of the reduced costs of the Federal Employees Retirement System.

OVERSEAS STAFF REDUCTION AVOIDED

Mr. Chairman, before I conclude my statement, I would like to express my personal appreciation and the appreciation of the Foreign Agricultural Service for this committee's actions last year.

When we appeared before you last year about this time, it was evident that unless some relief was given we perhaps would have to close 13 offices overseas and reduce staff at 5 others. This committee responded in a resounding way, and I report to you today that those offices are alive and well.

PERSONAL SERVICES CONTRACTING AUTHORITY

This committee also provided us with personal services contracting authority overseas which made it possible for us to offset partially the adverse effect of reductions of staff we have had to take because of overseas staffing reviews. This authority will allow us to contract out some of the activities that we need to perform. This will put us on a par with other agencies of the U.S. Government, like AID and the State Department, which already have that authority.

MINISTER-COUNSELOR DIPLOMATIC RANK

You also made it possible for us to maintain our ability to compete overseas, as related to our sister service, the Foreign Commercial Service, by giving us an equal amount of diplomatic minister counselor ranks. Had it not been for the interest of this subcommittee, and its tenaciousness, we certainly would not have made out quite so well.

And to you, Mr. Chairman and the other members of this committee, we express our appreciation, as does all American agriculture for coming to our aid when it was needed.

As I said to you last year, exports are the hottest topic around. Everybody believes in them, but very few people are willing to pay for them. But you, sir, proved to be different and we will always be grateful to you.

I appreciate the opportunities that I have had to appear before this committee, and appreciate your personal support and the collective support of the committee for an organization that I believe in. I would pay tribute to them, the civil servants at the Foreign Agricultural Service, the foreign officers, attachés and counselors whom I believe to be the most dedicated people in the U.S. Government. I can say that because I am really not one of them. But they have opened their hearts and minds to me as a political appointee. They have shored me up, and I have tried to do my best for them during the period of time it has been my pleasure to be the Administrator of the Foreign Agricultural Service.

I thank you for your friendship, for your loyalty and count the memories that I have had here on the Hill as being the choicest in my life. And it is always a pleasure to appear before your committee, sir.

Senator BURDICK. Thank you very much.

[The statement follows:]

STATEMENT OF THOMAS O. KAY

Mr. Chairman, members of the Subcommittee. I appreciate the opportunity to meet with you to discuss the work of the Foreign Agricultural Service (FAS) and to present our budget request for fiscal 1989.

The importance of exports to agriculture is evident throughout the economy. That is why the work of FAS continues to be vital to U.S. agriculture. Today I would like to highlight the outlook for farm exports and the role of the Foreign Agricultural Service in improving U.S. export opportunities.

OUTLOOK

This is going to be a banner year for farm exports. After years of dealing in a buyer's market, the United States seems to be in for solid recovery in fiscal 1988. We are in a good position to make sales in a market that has improved notably over the past 2 years. Farm programs have been adjusted so that U.S. commodities are now in a better marketing position, the dollar is priced attractively against currencies of a number of key importing and competitor countries, and supplies of most commodities are ample to meet buyers' needs.

Fiscal 1988 is going to be a big year for bulk commodity sales--that is already apparent from the pace so far. The U.S. share of world trade volume in bulk commodities may reach 46 percent, increasing 6 percentage points from last year to the highest level since 1983.

Our share of the world's coarse grain trade climbed to nearly 57 percent in the 1987 marketing year, up 9 percentage points from the year before. And we expect another increase this year.

The United States is also expected to capture 37 percent of the world wheat market--up 10 percentage points from 1986/87.

U.S. cotton prospects for fiscal 1988 are bright with a 13-percent gain expected in export volume.

U.S. high-value products, which bucked the downtrend that affected bulk products in recent years, also remain a bright spot.

High value sales accounted for nearly half the value of all U.S. farm exports in fiscal 1987. They are likely to get a further boost in 1988 from the decline in the dollar.

Overall, good prospects are expected in Pacific Rim nations with fast growing economies and many U.S. customers. U.S. exports there are projected to rise about 14 percent. Increased sales also are expected to the European Community, Canada, the Soviet Union, and China.

As a result, U.S. farm exports should increase 16 percent to $32.5 billion in fiscal 1988 and rise a tenth in volume to 142.5 million tons. On a percentage basis, that is on a par with the annual gains experienced many years during the Seventies. This is coming on the heels of a strong recovery in exports during 1987, when both sales volume and dollar values were up significantly.

The optimistic forecast for exports also points to a very positive trade balance for agricultural items. With agricultural imports expected to continue at the 1987 level, the 1988 U.S. agricultural trade surplus should reach $12 billion, bettering last year's figure by nearly $5 billion. Since two monthly trade deficits in the summer of 1986, the United States has run consistent monthly agricultural trade surpluses, and further growth in the positive balances is expected. In fact, the December monthly trade balance of $1.25 billion was the largest in nearly 3 years.

Favorable economic factors have converged with farm policy and program decisions to improve the situation and outlook for agricultural exports. Over the past 2 years, we have used the export programs authorized by the Food Security Act to support an aggressive export effort. We are seeing the results now.

The Export Enhancement Program and the Targeted Export Assistance program have helped U.S. exporters meet subsidized competition in world markets. Credit guarantee programs and market development efforts have helped in expanding existing markets and developing new ones. The Food for Peace Program has helped provide food assistance and long-term credit to needy countries.

The General Sales Manager will go into detail on a number of these areas which come under his immediate purview. The combined impact of these programs on U.S. exports has been dramatic. To cite a single example: In 1987, the United States shipped almost one-half of its wheat and flour exports under Export Enhancement Program (EEP) initiatives. Sales of a wide range of products sold under the EEP total over $4.1 billion since the program was launched in 1985.

TRADE POLICY

It is impossible to talk about the longer term outlook for U.S. agricultural trade without taking a close look at what is happening in the trade policy arena. The past year has been one of significant progress in the Uruguay Round of the GATT negotiations on agriculture.

These talks offer the world's agricultural exporters the best chance we may have in a long time to agree on farm programs and policies.....to create a trade environment in which all nations can compete openly and fairly.

Proposals for agricultural reform have been submitted by most of the major players in agricultural trade--the United States, the European Community, the Cairns Group of 13 exporting nations, Canada, four Nordic nations, and Japan.

We are already at the point in the Uruguay Round where we are ready to begin serious negotiations on agriculture. It took four years to get to this point during the last round. We are seeing many nations actively participating in the process this time, rather than just a few. All of this bodes well for reaching an agreement on agricultural reform by the end of the year.

The United States has proposed phasing out all subsidies and market access barriers in order to seek fundamental reform of domestic policies which provide excessive support to agriculture. Government intervention has been the root cause of price-depressing surpluses which have led to increased protection and export subsidies. Agriculture played a small role in past negotiations. But, in the Uruguay Round we have proposed an ambitious and broad-based reform of world agricultural policy.

The U.S. proposal calls for the phased elimination of all direct and indirect subsidies that affect trade and the phased elimination of all import barriers by the end of this century.

The proposal also seeks an international approach to the harmonization of health and sanitary regulations. Regulations to protect human, plant and animal health and life should be based on scientific rational and should not be used as arbitrary or unjustifiable restrictions on trade. A greater consensus on standards for health and sanitary regulations would help facilitate trade, lower costs, and assist developing countries improve their food control systems.

The pace that GATT members have set in identifying the problems that beset agricultural trade and in tabling negotiating proposals is encouraging. Most countries agree that basic policy changes are necessary to restore competitive stability and fairness to world markets.

Even so, achieving consensus on how to accomplish that will not be easy. We will continue to urge our trading partners to agree to adopt long-term negotiating objectives aimed at achieving a liberalized agricultural trade system. Such a system can provide world agricultural growth and trade opportunities.

While stressing the importance of the MTN in bringing about freer and fairer trade, we also are working with many nations bilaterally to improve trading conditions for U.S. exporters.

A notable result of our bilateral talks over the past year has been the negotiation of a free trade agreement with Canada. If approved, the agreement will eliminate all tariffs between our two countries. It also will expand access to the Canadian market for U.S. horticultural products, provide conditions for elimination of Canadian import licenses for U.S. wheat, barley and oats, and increase Canadian import quotas for poultry, eggs and egg products. Each country will exempt the other from its meat import laws. In addition, the agreement will remove Canadian subsidies under the Western Grain Transportation Act. This would affect products moving to U.S. markets through Western Canadian ports. Both countries will work together to harmonize the many plant and animal health regulations that now hinder trade.

We have been working with the European Community on important access and subsidy issues. U.S. opposition was instrumental in preventing an EC consumption tax on fats and oils. The tax would have adversely affected U.S. exports of soybeans and products valued at over $2 billion. The United States protested strongly and the tax proposal was temporarily shelved last July. We will continue to oppose the tax if necessary.

We are also pushing forward with the American Soybean Association 301 petition against the EC's oilseed regime. We have had both informal and formal consultations with the Community to make the case that their processing subsidy impairs our zero binding, is discriminatory and has caused damage. We will continue to press the case through the full GATT process if necessary.

We are using every opportunity to press the EC to reconsider the hormone ban. We have set in motion a GATT process and have had bilateral consultations. These have resulted in a year's delay in the application of the ban to imports, during which time we hope to see changes in the ban.

Under the Enlargement Agreement the EC agreed to assure that Spain purchase 2.3 million tons of corn and sorghum each year through 1990. These amounts have now been purchased for 1987. We expect the 1988 purchases to be made with no delays.

We have also persuaded the Community to eliminate export subsidies for wheat gluten, improving the competitive situation for our own industry.

In July, Turkey cut its import surcharges on vegetable oils almost in half in response to U.S. protests that the surcharges were not in conformance with Turkey's GATT obligations.

Japan reduced its import duty on wine by 30 percent and that on wine coolers by 50 percent. As a result of that policy breakthrough coupled with intensive marketing, U.S. wine exports to Japan increased significantly in 1987.

California cherries were successfully shipped to Japan for the first time last year, following a year of negotiations over fumigation requirements.

Negotiations with Japan also resulted in further duty reductions on chocolate and walnuts, which will improve the competitive position of these U.S. products.

The United States has received a favorable ruling from the GATT that should result in Japan soon liberalizing 8 quota categories for food products. This could mean an increase of $100 million a year in U.S. exports to Japan. We also continue to push the Japanese to completely liberalize their beef and citrus market following the April 1 expiration of our agreement on these commodities.

In July, Korea lifted the citrus quarantine on U.S. exports of grapefruit and lemons and put grapefruit and lemon juices on automatic licensing.

In addition, Korea has cut tariffs on 19 agricultural items of interest to U.S. exporters and opened cranberry juice to automatic licensing. We continue to push Korea to reduce other import restrictions and tariffs and are taking them to the GATT on their beef import restrictions.

We have convinced Taiwan authorities to delay implementation of their proposed fruit import ban. We are optimistic the ban will not be imposed. We have also persuaded Taiwan to reopen licenses for turkey imports prior to the expiration of the current license. We are continuing to work with the Taiwanese to expedite inspection and clearance of turkey meat imports.

MARKET DEVELOPMENT

In addition to such trade policy efforts, FAS also is responsible for long-term market development. This has been carried out principally through nonprofit agricultural trade associations called cooperators.

We work with more than 130 U.S. agricultural firms, producer groups, and State agriculture departments to develop and expand commercial export markets.

Promotion activities, jointly financed with cooperator groups, include trade servicing, training and education programs, international trade exhibits, advertising, merchandising, and trade missions. FAS also provides exporters with computerized trade leads and other marketing and information services.

To make sure these services are extended to producers of highly processed products, as well as bulk commodities, FAS established a High Value Products Division in mid-1986. This division works closely with exporters of consumer-ready food products and with state departments of agriculture and their regional organizations to make sure that smaller food processing companies have ample opportunity to participate in trade shows and other export promotion programs.

Market development efforts have been given a significant boost by the Targeted Export Assistance (TEA) program which was authorized through 1990 by the Food Security Act of 1985.

Under the TEA program, USDA uses surplus stocks from the Commodity Credit Corporation to partially reimburse organizations for export promotion programs. For fiscal years 1986 through 1988, $330 million in TEA support has been made available to help producers who have been hurt by unfair trade policies of competing nations. The fiscal 1989 budget proposes an additional $295 million.

It has been a tremendous job to administer such a large program with existing FAS staff resources. During the past year, we have taken major steps to streamline and improve the management of all market development programs, so that we can stretch our resources to do the best job possible.

Market development efforts are paying off, as a few examples illustrate.

The U.S. Feed Grains Council and the American Soybean Association are helping Algeria develop its dairy, livestock and poultry sectors by building model facilities for dairy, beef, sheep, broiler and egg production. The goal is to make Algeria a major U.S. feed market by 1995, and also to sell U.S. breeding stock and semen.

The U.S. wood products industry is building a demonstration housing project in Argentina and showcase homes in the United Kingdom featuring the latest in timber frame technology.

As a result of a Wine Institute sales promotion campaign--made feasible by the lowering of import duties--Japanese imports of U.S. wines are soaring.

A California Raisin Advisory Board promotion helped triple U.S. raisin exports to Korea.

The USA Dry Pea and Lentil Council targeted its sights on flagging U.S. sales to the Spanish market and turned the export picture around there.

The U.S. Meat Export Federation is letting Japan's consumers and meat industry know about the quality of U.S. grain-fed meat.

Algeria, Egypt, Morocco, and Tunisia are buying U.S. cattle as a result of technical training programs conducted by the U.S. Holstein-Fresian Association of America.

Work of the U.S. Feed Grains Council helped to recapture markets which had been lost in China and declining in Korea.

The USA Poultry and Egg Export Council moved quickly and effectively to work with Japanese traders and officials to get a ban on U.S. poultry lifted. News reports about salmonella had panicked Japanese buyers--the largest market for U.S. poultry.

The list of marketing endeavors goes on to encompass versatile and imaginative efforts for virtually every U.S. agricultural product sold overseas.

AGRICULTURAL ATTACHES

In all of the efforts which I've discussed, the support of our overseas agricultural attaches is invaluable. Our network of agricultural representatives in 76 U.S. embassies and consulates around the world have contributed substantially to the success of U.S. export programs. They help expand markets for U.S. farm products, provide the Department's foreign supply and demand information, and work on policy and market access issues.

BUDGET REQUEST

The fiscal year 1989 budget proposal for FAS is $89.1 million.

The budget proposes a $3.2-million decrease in Foreign Market Development activities from the level appropriated in fiscal 1988. However, in total, the budget is approximately $6 million above the level available in fiscal 1987.

Overseas and domestic inflation, as well as the annualized costs of the fiscal year 1988 pay raise, will be absorbed to the extent possible from the effects of the reduced costs of the Federal Employees Retirement System.

This concludes my statement, Mr. Chairman. I will be glad to respond to questions.

BIOGRAPHICAL SKETCH

Ann M. Veneman

Ann M. Veneman was appointed Associate Administrator of the U.S. Department of Agriculture's Foreign Agricultural Service (FAS) in November 1987. She oversees the trade policy, statistical analysis, and attache functions of the agency.

Ms. Veneman previously served as Assistant to the Administrator of FAS where she was involved in the free trade negotiations with Canada, the Uruguay Round of the multilateral trade negotiations under the General Agreement on Tariffs and Trade, and legal and legislative matters for the agency. As Associate Administrator, she continues her involvement in these areas.

Prior to joining FAS in 1986, Ms. Veneman was a partner in the law firm of Damrell, Damrell, and Nelson in Modesto, Calif. She is a member of the California Bar. Her practice, which involved extensive work with governmental agencies at the federal, state and local levels, included many clients with various agricultural interests.

Raised on a peach farm in California, Ms. Veneman received a bachelor's degree in political science from the University of California, Davis in 1970, a master's degree in public affairs from the University of California, Berkeley in 1971, and a juris doctorate from the University of California, Hastings College of the Law in 1976.

Ms. Veneman currently resides in Washington, D.C.

OFFICE OF THE GENERAL SALES MANAGER

STATEMENT OF MELVIN E. SIMS, GENERAL SALES MANAGER

ACCOMPANIED BY JOHN W. WILLIAMS, DEPUTY ASSISTANT ADMINISTRATOR, MANAGEMENT, FOREIGN AGRICULTURAL SERVICE

Senator BURDICK. Melvin Sims, the General Sales Manager.

Mr. SIMS. Thank you, Mr. Chairman and members of the committee. I appreciate the opportunity to discuss the programs of the Office of the General Sales Manager and to present our budget request for fiscal year 1989.

The Food Security Act of 1985 established a significant set of legislative authorities that have resulted in a reassertion of the competitive position of U.S. agriculture.

Last year, U.S. agricultural exports altered their decline. U.S. exports increased from $26.3 billion in fiscal year 1986 to $27.9 billion in fiscal year 1987. Overseas sales are expected to be up 16 percent in fiscal year 1988.

EXPORT ENHANCEMENT PROGRAM

The Export Enhancement Program last year allowed the United States to retain and maintain export markets in the face of unfair competitor practices. For example, we recaptured the Canary Island market for chicken legs lost during 1984 and 1985. We maintained our table egg market in Hong Kong against competition from the European Community.

In addition, U.S. durum wheat was sold to the Yugoslav pasta industry for the first time and wheat sold to the Soviet Union was the largest volume since 1983–84.

Wheat sold to China was the only U.S. sales to China since 1984. Last year, U.S. exports of barley quadrupled and exports of barley malt doubled.

Since the EEP was launched, my office has approved 94 export initiatives involving 59 countries and 12 commodities. More than 40 million tons of commodities have been sold with an estimated value of $4.1 billion.

EXPORT CREDIT GUARANTEES

For the CCC Export Credit Guarantee Program—called GSM–102—last year, we announced $3.8 billion in guarantees for 27 countries, and registered $2.6 billion in sales. A total of $3.6 billion in short-term guarantees have been announced thus far in fiscal year 1988.

For the GSM–103 intermediate export credit guarantee program, last year was the first full year of operation. A total of $411 million in guarantees were available for sales to 18 countries. Sales registration amounted to $250 million.

A total of $480 million is available in fiscal year 1988, bringing the total CCC export credit guarantees to date to $4.1 billion.

Last year, USDA's foreign risk analyses were expanded by evaluating the creditworthiness of more than 30 countries.

Under titles I and III of Public Law 480, concessional sales agreements were signed with 29 countries in fiscal year 1987 providing for registered sales of 5.7 million tons of commodities with an estimated export market value of $786 million.

Local currency agreements were signed with six countries: Costa Rica, the Dominican Republic, Jamaica, Morocco, Sri Lanka, and Tunisia.

Under the title II donations program in fiscal year 1987, the United States programmed 2.1 million tons of commodities to malnourished people in 84 countries and contributed to the world food program and the International Emergency Food Reserve as well.

Under section 416 of the Agricultural Act of 1949, the United States approved 1.5 million tons of commodities for donations overseas. The Secretary has determined that 1.6 million tons of grain and oilseeds will be available during fiscal year 1988.

BARTER AND OTHER EXPORT PROGRAMS

With respect to barter, USDA and the Department of Energy have signed a memorandum of understanding to pursue the trade of surplus U.S. agricultural commodities for crude oil for the Strategic Petroleum Reserve.

The requirements of the Dairy Termination Program and the Dairy Export Incentive Program were met in fiscal year 1987. The Mandated Dairy Sales Program is nearly complete.

The Agricultural Appropriations Act of December 22, 1987, established the Sunflower Oil Assistance Program. USDA is working to develop the program to implement this mandate.

BUDGET REQUEST

For fiscal year 1989, we are proposing a program level of $3 billion for short-term credit guarantees, GSM–102, and $500 million for intermediate export credit guarantees, GSM–103.

For Public Law 480, we are requesting $1.4 billion, $812 million for titles I and III, and $595 million for title II.

We also request $7.3 million for the General Sales Manager's Office.

PREPARED STATEMENT

This concludes my statement, Mr. Chairman. I welcome the opportunity to answer your questions.

Senator BURDICK. Thank you very much.

[The statement follows:]

STATEMENT OF MELVIN E. SIMS

Mr. Chairman, members of the Subcommittee, I appreciate the opportunity to discuss the programs of the Office of the General Sales Manager and to present our budget request for fiscal year 1989.

This past year has been a positive one in boosting U.S. agricultural exports. The Food Security Act of 1985 established a significant set of legislative authorities that have resulted in a reassertion of the competitive position of U.S. agriculture. Fundamentally, U.S. commodities have become more competitively priced in international markets through farm program provisions and export assistance programs.

In 1987, U.S. agricultural exports totaled $27.9 billion, a turnaround from the steady decline during 1981-86. The export outlook for 1988 is even better, with the value of overseas sales expected to be up 16 percent.

The General Sales Manager is a key representative of U.S. farmers in international agricultural markets. Meeting clients face-to-face is extremely important in achieving sales in which buyer and seller are sometimes separated by half the globe.

Last year we facilitated the movement of nearly one-fifth of all U.S. agricultural exports, a circumstance made possible by excellent cooperation among the export credit, commodity and market program areas in the General Sales Manager's office.

In my role as General Sales Manager, I made a dozen trips overseas last year, visiting countries in the Middle East, Africa, Asia, Europe, and South America. Just last month I accompanied the Secretary to The Philippines and Singapore. During these trips I met with foreign government officials, official buying agencies, private sector importers, and U.S. cooperator representatives.

During this period, numerous delegations visited the United States to discuss our programs. In many cases, they purchased U.S. agricultural commodities.

I will describe briefly how major export promotion programs have helped U.S. agricultural exports during the past year.

EXPORT ENHANCEMENT PROGRAM

The Export Enhancement Program (EEP) uses Commodity Credit Corporation (CCC) commodities to make U.S. products more competitive in the world marketplace and offset the adverse effects of unfair trade practices or subsidies.

Under the EEP, agricultural commodities owned by the CCC are made available as a bonus to U.S. exporters to expand sales of U.S. agricultural products into targeted markets.

Since the program was launched in May 1985, nearly $1.9 billion in export bonuses have been used. As of mid-March 1988, my office has approved 94 export initiatives involving 59 countries and 12 commodities.

More than 40 million tons of commodities have been sold, including nearly 35 million tons of wheat and wheat flour (grain equivalent), 5 million tons of barley, 175,000 tons of barley malt, 73,000 tons of semolina, 124,000 tons of rice, 229,000 tons of sorghum, 148,000 tons of frozen poultry, 111,000 tons of poultry feed, 64,394 head of dairy cattle, 28 million dozen table eggs, and 255,000 tons of vegetable oil.

The estimated sales value of these commodities is over $4.1 billion.

The EEP has allowed the United States to regain and maintain export markets in the face of unfair competitor practices. For example, in fiscal year 1987, we sold 3,000 tons of chicken legs under the program to the Canary Islands, allowing us to recapture a market lost during 1984-86. Exporters are now selling poultry meat in the Canary Islands market without the EEP bonus. We also sold nearly 8 million dozen table eggs to Hong Kong, allowing us to maintain our market against competition from the European Community (EC).

U.S. durum wheat was sold to the Yugoslav pasta industry for the first time, and U.S. wheat was purchased by Senegal. U.S. exports of barley quadrupled, and exports of barley malt more than doubled. The 4 million tons of wheat sold to the USSR were the largest volume since 1983-84. The 2 million tons of wheat sold to China were the only U.S. sale to China since 1984. The 1 million tons sold to Poland were the largest U.S. wheat sale to that country to date.

CREDIT GUARANTEE PROGRAMS

The CCC Export Credit Guarantee Program (GSM-102) helps stimulate U.S. exports by assuring the availability of bank financing of foreign purchases on credit terms of up to three years. It provides a U.S. Government guarantee on virtually all of the private financing. The program operates where credit is necessary to increase or maintain U.S. exports to a foreign market and where private financial institutions would be unwilling to provide financing without CCC guarantees.

In fiscal year 1987, $3.8 billion in guarantees were announced for 27 countries, and $2.6 billion in sales were registered. All agricultural commodities are eligible for guarantee under the GSM-102 program.

In fiscal year 1988 thus far, USDA has announced nearly $3.6 billion in short-term guarantees for 17 countries.

This program has been instrumental in Algeria's becoming one of the most important growth markets for U.S. agricultural products. USDA increased its GSM-102 program for Algeria from $97 million in fiscal year 1986 to $469 million in fiscal year 1987. The higher level of guarantees yielded more than $240 million in commodity sales, including wheat, feed grains, cotton, and tobacco.

Also under the program, Egypt purchased nearly $200 million of wheat, flour, cotton, and tobacco.

Iraq--one of the first participants in the credit guarantee program--has become the twentieth largest market for U.S. agricultural products and continues to be the largest market for U.S. rice. In 1987 exporters registered sales exceeding 95 percent of the $593 million available for credit guarantees in sales to Iraq. The Iraq program was the first to offer coverage for ocean freight, and, for the first time, credit guarantee lines were opened for frozen poultry meat and wood products.

In Korea, new lines of guarantees were opened for leather and furskins. U.S. exporters registered sales totaling $498 million against announced credit guarantees of $530 million covering cotton, feed grains, furskins, leather, oilseeds, tallow, and wheat.

In Mexico, $724 million in CCC credit guarantees were used to cover purchases of dry edible beans, feed grains, livestock, oilseeds, protein meals, soy flour, tallow, vegetable oils, wheat, and wood pulp. Wood pulp exports increased from $2.3 million in fiscal year 1986 to $17 million last year.

The GSM-103 Intermediate Export Credit Guarantee Program provides guarantees on commercial credit with repayment terms of 4 to 10 years. The program is designed to help developing nations make the transition from concessional to cash sales. Fiscal year 1987 was the first full year of program operation, and $411 million of guarantees were made available for sales to 18 countries. Sales registrations amounted to about $250 million. About one-third of the intermediate-term guarantees were used for breeding livestock, but the program also supported exports of wheat, wheat flour, protein concentrates, and tobacco.

Thus far in fiscal year 1988, USDA has announced the availability of $480 million in intermediate guarantees to 15 countries, bringing the total announced CCC short-term and intermediate export credit guarantees to $4.1 billion.

The program has done well in boosting markets for U.S. agriculture. The sale of 4,000 head of U.S. breeding cattle to Tunisia in 1987, valued at $3.6 million, opened that market to U.S. exporters for the first time in recent years.

Bangladesh bought $30 million of U.S. wheat to meet increased import needs caused by flood damage. Coverage of freight charges helped make those sales.

Both commodities covered and registrations completed under Iraq's GSM-103 program increased significantly in fiscal year 1987. Almost all of the $87 million in guarantees made available were used, and the program expanded exports of U.S. breeder livestock, table eggs, protein concentrates, and tobacco.

In fiscal year 1987, Yemen expanded imports of U.S. semolina, wheat, and wheat flour. Exporters registered sales of one-half of the $25 million approved for the GSM-103 program in Yemen.

In fiscal year 1987, USDA's foreign risk analyses were expanded. We evaluated the creditworthiness of more than 30 countries based on current macroeconomic and financial conditions as well as expectations for the next 18 to 24 months. The analyses focused on the potential for debt rescheduling or default that could result in financial liabilities for the CCC.

PUBLIC LAW 480--FOOD FOR PEACE PROGRAM

The P.L. 480 Food for Peace program has an excellent record of success in supporting the market development, economic, humanitarian, and foreign policy objectives of the United States. Title I concessional sales have been effective in both economic development and the creation of commercial markets for U.S. farm products.

During fiscal year 1987 Title I/III concessional sales agreements were signed with 29 countries. These agreements provided for registered sales of 5.7 million tons of commodities with an estimated export market value of $786 million.

Following recent declines in the U.S. market share for vegetable oil, a $10-million allocation for Egypt enabled U.S. suppliers to ship approximately 25,000 tons to this highly competitive market.

The Government of Morocco signed an agreement to import about 55,000 tons of vegetable oil, valued at $21 million.

The Government of Pakistan signed an agreement to import about 128,000 tons of U.S. vegetable oil, valued at $50 million.

Title I sales of U.S. wheat to Tunisia increased 60 percentage points above the previous year's level. About 166,000 tons of wheat were critical in meeting Tunisia's shortfall resulting from the 1986 drought.

The Government of Yemen signed an agreement worth $15 million for approximately 34,000 tons of U.S. rice and 72,000 tons of U.S. wheat.

The Local Currency Initiative under P.L. 480 supports economic growth via the private sector in recipient countries. In fiscal year 1987, local currency agreements (Title I/Section 108) were signed with six countries: Costa Rica, the Dominican Republic, Jamaica, Morocco, Sri Lanka, and Tunisia. Sales of U.S. farm products are made for local currencies, which are then loaned to private financial intermediaries in Title I countries, who re-lend them to the local private sector.

During fiscal year 1987, Title III Food for Development agreements worth $97 million were signed with Bangladesh, Bolivia, and Haiti. Funds generated are used within the participating country for projects such as food grain storage facilities, research and extension services, or small-farm irrigation systems. The program also encourages countries to undertake major policy adjustments, such as expanding private bank credit in rural areas or phasing out consumer food subsidies.

Under the Title II donations program, during fiscal year 1987, the United States programmed 2.1 million tons of commodities valued at $552 million (including ocean and internal transportation costs) to malnourished people in 84 countries. Title II donations to the World Food Program contributed to the biennial U.S. pledge of $250 million as well as the U.S. contribution to the International Emergency Food Reserve.

Title II donations consisted primarily of wheat and feed grains and their products. Other donated commodities included vegetable oil, nonfat dry milk, processed foods, and soy-fortified products.

The three largest recipients of emergency food aid in fiscal year 1987 were Haiti (54,264 tons); Lebanon (31,364 tons); and Mozambique (125,500 tons).

SECTION 416

Section 416(b) of the Agricultural Act of 1949, as amended by the Food Security Act of 1985, authorizes overseas donations from the CCC's uncommitted stocks of grains, oilseeds, and dairy products.

In fiscal year 1987, nearly 1.5 million tons of commodities were approved for donation, including: 963,000 tons of wheat, 278,000 tons of corn, 78,000 tons of nonfat dry milk, 51,000 tons of rice, 18,000 tons of butter oil, 15,000 tons of cheese, 15,000 tons of wheat flour, 12,000 tons of soybeans, 3,000 tons of butter, and 900 tons of bulgur.

Included in these quantities are 26,428 tons of nonfat dry milk which the United States pledged to the World Food Program.

For fiscal year 1988, the Secretary has determined that 1.6 million tons of grains and oilseeds are available for Section 416 donations. No dairy products or rice are available because of low uncommitted CCC stocks, but wheat, corn, sorghum and soybeans are available. For fiscal year 1989, corn and sorghum will be available.

BARTER

The Food Security Act of 1985 encourages agricultural barter agreements.

USDA and the Department of Energy have signed a Memorandum of Understanding for pursuing opportunities to trade surplus U.S. agricultural commodities for crude oil for the Strategic Petroleum Reserve. USDA has identified countries that meet the criteria, and discussions on specific proposals for barter arrangements are continuing.

MEAT AND DAIRY EXPORT PROGRAMS

Under the Dairy Termination Program, the Food Security Act of 1985 required USDA to purchase at least 200 million pounds of red meat for export during the 18-month duration of the program. This requirement was met.

USDA also provided the Department of Defense with 12 million pounds of red meat between July 1, 1986, and October 1, 1987, to supply military commissaries in Europe.

In addition, USDA sold 825 tons of high-quality U.S. beef to European importers under the annual quota available to the United States in the EC.

USDA has also implemented the Dairy Export Incentive Program, under which payments of CCC-owned dairy products are made on a bid basis to entities that sell U.S. dairy products for export. Export sales under the program must be additional and not displace commercial export sales. The program has been operational since February 6, 1987.

Eligible products are butter, butter oil, anhydrous milk fat, nonfat dry milk, whole milk powder, cheddar cheese, and bulk American cheese for manufacturing. Thirty-nine countries are currently eligible for the program.

Thirty-seven sales have been made to 16 countries for a total of 10,947 tons of milk powder. The total export bonus value is $8.4 million.

The Mandated Dairy Sales Program requires that in each of fiscal years 1986-88 the CCC export no less than 150,000 tons of CCC-owned dairy products. These CCC sales cannot disrupt domestic U.S. markets or world prices or patterns of commercial trade. We are fulfilling this requirement.

PUBLIC LAW 100-202

The Agriculture Appropriations Act for fiscal year 1988, enacted December 22, 1987, established the Sunflower Oil Assistance Program, and $10 million of Section 32 funds are authorized to increase export sales of sunflower oil. USDA is working to develop a program to implement this mandate.

BUDGET REQUEST FOR FISCAL YEAR 1989

The budget proposal for fiscal year 1989 continues to emphasize the importance of USDA's export programs as a means of facilitating agricultural exports while recognizing the need to reduce the Federal deficit.

CCC EXPORT CREDIT GUARANTEES

For fiscal year 1989, we are proposing a program level of $3 billion for short-term credit guarantees (GSM 102). While this request is $2 billion lower than the fiscal year 1988 program level, it is consistent with the annual levels of sales registrations of recent years and should be sufficient for our market development objectives.

For intermediate export credit guarantees (GSM 103), we are proposing a program level of $500 million, the same level for fiscal year 1988.

PUBLIC LAW 480 (FOOD FOR PEACE) PROGRAM

For fiscal year 1989, we are requesting a total program level of $1.4 billion for the P.L. 480 program, which will provide 6.7 million tons of agricultural commodity exports. While this represents a slight reduction from the current tonnage estimate for fiscal year 1988, it is considered adequate to provide for projected U.S.-Government food aid programs in fiscal year 1989.

For the Title I/III program, we are requesting a program level of $812 million which will provide long-term concessional financing for almost 5 million tons of agricultural commodities.

For the Title II program, we are requesting $595 million, which will provide for 1.9 million tons of food donations.

THE GENERAL SALES MANAGER'S OFFICE

For fiscal year 1989, we are requesting $7.3 million for the General Sales Manager's office. This is an increase of $111,000 over the fiscal year 1988 level and will partially offset the increased costs associated with administering the expanding programs authorized by the Food Security Act of 1985.

This concludes my statement, Mr. Chairman. I welcome the opportunity to answer your questions.

OFFICE OF INTERNATIONAL COOPERATION AND DEVELOPMENT

STATEMENT OF DR. JOAN S. WALLACE, ADMINISTRATOR

ACCOMPANIED BY:

HOWARD S. MARKS, ASSOCIATE ADMINISTRATOR
JAMES L. WALKER, ASSISTANT ADMINISTRATOR FOR INTERNATIONAL RESEARCH AND DEVELOPMENT
AVRAM E. GUROFF, ACTING ASSISTANT ADMINISTRATOR FOR INTERNATIONAL COOPERATION AND PLANNING
RUTH B. JESPERSEN, BUDGET OFFICER

Senator BURDICK. Our next witness will be Joan Wallace.

Dr. WALLACE. Mr. Chairman, members of the subcommittee, we appreciate the opportunity to discuss the programs and the proposed budget of the Office of International Cooperation and Development, sharing with you our vision of agriculture's role in the world community and our contribution to the part played by U.S. farmers, producers, and exporters.

Mr. Chairman, if it is all right with you, I will summarize my report and the full testimony will be submitted for the record.

Although small in size relative to other USDA agencies, OICD plays a major role in international agricultural cooperation and development, with programs in technical assistance, training, international research, and scientific and technical cooperation.

In addition, we represent the United States with the international food and agricultural organizations and work to strengthen private sector involvement in international agriculture.

Together with American colleges and universities, the U.S. private sector, and other USDA and federal agencies, OICD is the hub of a formidable team using international programs to benefit American agriculture and the economies of the developing world.

An overview of our major programs has been submitted through the explanatory notes and I will not attempt to name all facets of the programs here, but I will describe how our programs benefit U.S. farmers, while at the same time, help the people of the developing countries.

First, we help to gather resources worldwide which sustain and improve U.S. agriculture, including plant and animal germplasm; research findings in many areas of agriculture; and new technologies and methods.

Examples of new resources obtained by our agency include varieties of rice, wheat, and alfalfa from India, Pakistan, and Egypt which are more resistant to U.S. diseases and pests; natural insect predators from Yugoslavia, India, and China, including parasitic wasps being reared and released commercially in Pennsylvania to combat gypsy moth infestation; and an increased understanding of the biology and chemical control of parasitic Asian mites which threaten the U.S. honeybee population, crucial for the honey industry and crop pollination.

Second, we help to improve products and contribute to new markets, hopefully expanding U.S. exports, including research into improving the physical stability and shelf life of powdered milk, helping the industry to boost sales; facilitation of negotiations for the sale of 14,000 tons of cargo rice, with the potential for 170,000 more, resulting from the middle-income country rice milling training program with Cote d'Ivoire.

Third, we help reduce barriers to U.S. agricultural exports by working with international organizations. One example is our work that helped develop international agricultural phyto-sanitary standards and product definitions, which are of value in trade talks, such as the current GATT Round.

Fourth, we help low income countries improve their agricultural and forestry infrastructures and standards of living by training foreign professionals in forest fire suppression here in the United States and in Argentina, Ghana, and Mexico. We have coordinated vertebrate pest control projects in Pakistan and Bangladesh, and we have been mobilizing rapid response teams to deal with the threat of invading desert locusts and grasshoppers in Morocco and nine other African countries.

Fifth, we help to improve the health and well-being of people worldwide, including providing vitamin A fortification of monosodium glutamate so that potentially 100,000 preschoolers' lives may be saved and 10,000 cases of childhood blindness may be prevented in Indonesia, the Philippines, Sri. Lanka, Guyana, and Zaire.

And we have been fostering original research in Thailand into the relationship between diet and resistance to disease and infection.

Our research with Poland shows that lactose supplementation in children unable to absorb Vitamin D can cure this debilitating condition and help prevent rickets.

To support our program, we are requesting $3,972,000 for fiscal year 1989. This represents a reduction of nearly $3 million from our fiscal year 1988 estimate. This reduction reflects a proposed phaseout—and no further funding requested—for foreign currency research and the Middle-Income Country Training Program.

Our total request, though moderate, provides the funds necessary to support our international cooperation and development programs, vital to the economies and people of the developing world and to U.S. agriculture.

PREPARED STATEMENT

Thank you, Mr. Chairman, and members of the subcommittee, I will be happy to answer any questions you might have.

[The statement follows:]

STATEMENT OF JOAN S. WALLACE

Mr. Chairman, members of the Subcommittee. We appreciate the opportunity to discuss the programs and proposed budget of OICD -- the Office of International Cooperation and Development, sharing with you our vision of agriculture's role in the world community and OICD's contribution to the part played by U.S. farmers, producers, and exporters.

Today, agriculture is a major factor in international politics and economics. The days of domestic agricultural production, using only domestic inputs for a domestic market, are long past. We realize, Mr. Chairman, that our production of food, fiber, and industrial products --

* relies heavily on imported germplasm, raw materials -- even technology;

* is threatened by imported plant and animal diseases, pests, and environmental hazards;

* is raised for export as well as domestic consumption, with nearly one in four cropland acres devoted to exports which totaled $27.9 billion in 1987;

* is sometimes subject to unfair foreign trade practices and trade barriers; and

* has implications for developed and developing economies alike throughout the world.

Although small in size relative to other USDA agencies, OICD plays a major role in international agricultural cooperation and development, with programs for technical assistance, training, international research, and scientific and technical cooperation. In addition, we represent U.S. policy to international food and agricultural organizations and work to strengthen private sector involvement in international agriculture.

Together with American colleges and universities, the U.S. private sector, and other USDA and Federal agencies, OICD is part of a formidable team using international programs to benefit American agriculture and the economies of the developing world.

An overview of our major programs, submitted to the subcommittee, is available in the explanatory notes and I will not attempt to highlight all of them here. Instead, I will describe some ways our programs benefit U.S. farmers while at the same time helping the people of developing countries.

First, we help to gather resources worldwide which sustain and improve U.S. agriculture, including --

* plant and animal germplasm and varieties;
* research findings in many areas of agricultural production and marketing;
* new technologies and methods.

Examples of new resources obtained by OICD include --

* varieties of rice, wheat, and alfalfa from India, Pakistan, and Egypt that are more resistant to U.S. diseases and pests;
* natural predators from Yugoslavia, India, and China, including parasitic wasps being reared and released commercially in Pennsylvania to combat gypsy moth infestation;
* increased understanding of the biology and chemical control of parasitic Asian mites which threaten the U.S. honeybee population, which is crucial for the honey industry and crop pollination;
* sunflower oil extraction methods from Yugoslavia which dramatically increased processing efficiency in the U.S.;
* research in cooperation with Australia on mutant soybeans which could double their nitrogen-fixing capacity.

Second, we help to improve products and find new markets, expanding U.S. exports, including:

* research into improving the physical stability and shelflife of powdered milk, helping the U.S. industry to boost sales;
* negotiations for the sale of 12,000 tons of rice, with the potential for 150,000 more, resulting from the MIC rice milling program with Cote d'Ivoire;
* a joint venture into catfish farming between Cote d'Ivoire and a U.S. industry group working in Mississippi.

Third, we help reduce barriers to U.S. agricultural exports through working with international organizations by --

* providing leadership in deliberations leading to the adoption of tractor standards by the Organization for Economic Cooperation and Development (OECD), saving U.S. industry $30,000 to $50,000 per tested vehicle;
* supporting U.S. agricultural interests in efforts to establish international kiwi fruit standards and thus preserve U.S. market share, worth over $10,000,000 in sales to Europe in the 1986-87 crop year;
* working to develop international agricultural standards, product definitions, and subsidy policies which are of value in trade talks, such as the current GATT round.

Fourth, we help low- and middle-income countries improve their agricultural infrastructures and standards of living by --

* training foreign professionals in forest fire suppression here in the U.S. and in Argentina, Ghana, and Mexico;

* providing long-term technical assistance to Indonesia in soil and water conservation;

* coordinating vertebrate pest control projects in Pakistan and Bangladesh;

* mobilizing rapid response teams to deal with the threat of invading desert locusts and grasshoppers in Morocco and nine other African countries.

Fifth, we help to improve the health and well-being of people world-wide through noteworthy efforts, including --

* vitamin A fortification of monosodium glutimate so that potentially 100,000 pre-schoolers may be saved and 10,000 cases of childhood blindness may be prevented in Indonesia (early success led to further efforts in Bangladesh, the Philippines, Sri Lanka, Guyana, and Zaire);

* fostering original research in Thailand into the relationship between diet and resistance to disease and infection; and

* research with Poland showing that lactose supplementation in children unable to absorb Vitamin D can cure this debilitating condition and pre-

To support our programs, we are requesting $3,972,000 for fiscal year 1989, a reduction of nearly $3,000,000 from our FY 1988 current estimate. This reduction reflects a proposed phase-out, and no further funding requested, for foreign currency research or the Middle-Income Country Training Program.

As in previous years, over 85% of our funds will come from leveraged resources from international organizations, foreign governments, and reimbursable funds from our work with the Agency for International Development. Even the private sector, recognizing the value of our programs, commits resources which complement our efforts.

Our total request, though moderate, provides the funds necessary to support USDA's international cooperation and development programs -- vital to U.S. agriculture and the economies and people of the developing world.

Thank you, Mr. Chairman and members of the subcommittee. I will be happy to answer any questions you may have.

BIOGRAPHICAL SKETCH

RUTH B. JESPERSEN

Mrs. Ruth B. Jespersen was appointed Budget Officer for the Office of International Cooperation and Development (OICD) on September 14, 1987. She works for the Assistant Administrator for Administration, overseeing budget and fiscal accounting procedures.

Mrs. Jespersen came to OICD from St. Elizabeth's Hospital, Washington, D.C., where she had been the Budget Officer for nine years. Before that, Mrs. Jespersen had worked at St. Elizabeth's in the Accounting Department, where she had designed an innovative program for investing patients' funds.

Originally from Denmark, Mrs. Jespersen, 59, studied at the University of Copenhagen and the University of Maryland, where she received a bachelors degree in Business Administration.

Mrs. Jespersen, a Certified Public Accountant, lives in Temple Hills, Maryland, with her husband, Phillip, and is the mother of two children.

FAS STAFF LEVELS

Senator BURDICK. We will now start the question period, and I will call on Mr. Kay. Are you ready, willing, and able now?

Mr. KAY. I am ready and willing, Mr. Chairman. Whether I am able remains to be seen.

Senator BURDICK. The recommended staff levels for FAS in fiscal year 1989 would remain the same as those estimated for fiscal year 1988, apparently. How does FAS plan to retain the same level of staff with reduced funding?

Mr. KAY. The reduction in funding, Mr. Chairman, would all be concentrated in the area of foreign market development and the cooperator program. It would not affect our staffing pattern at the present time if we maintain the 820 staff-years under which we are presently operating. However, that does not take into consideration the fact that we have been directed to absorb pay costs and inflation out of existing funds.

We certainly have no plans at this time, what with the additional programs that the Congress has required of us, to reduce our staff-years.

MARKET DEVELOPMENT

Senator BURDICK. Will the accent on market development abroad reduce other functions appreciably?

Mr. KAY. No question, Mr. Chairman, that with the reduction of $3 million, I would have to say in all honesty that the cooperator program and the other phases of the market development program have faced the same problem that we have faced with our functions and personnel at FAS, and that has been the devaluation of the dollar overseas. The devaluation of the dollar has been something of a double-edged sword. It has indeed helped us insofar as our agricultural exports are concerned. But when you consider the fact that the dollar has depreciated against 17 industrial countries since 1985 by some 37 percent, that is, it has decreased in the value against the Japanese yen by some 51 percent since 1985; against the West German mark by some 50 percent since 1985. This causes a hardship for the cooperators just as it does on us. I would venture to say that because of the reduction of $3 million in the cooperator program, we will perhaps have to curtail some of our activities.

It is hopeful that we can accommodate them by greater use of TEA funds in some of their activities, but the normal market development programs carried out by the cooperators would, of course, be adversely affected by the reduction in the $3 million.

FISCAL YEAR 1988 BUDGET INCREASE

Senator BURDICK. What has been the use of the $9,059,000 in increased funding received by FAS between 1987 and 1988?

Mr. KAY. Mr. Chairman, the increase in the fiscal year 1988 appropriation will be used in general terms as follows: $3 million for expansion of the foreign market development activities, including the cooperator program; $2.5 million to offset overseas exchange rate losses and inflation, making it possible to keep the 13 offices open that I had spoken to you about last year, and to keep our staff levels at the same level in five other posts; $2 million to finance the increased costs of the Federal Employees Retirement System and pay cost adjustments; and $1.5 million for multilateral trade negotiations support which will allow us to hire some 20 more people to work not only on our proposal but also on the analysis of proposals made by other countries during this new MTN Round which we believe to be so important.

FISCAL YEAR 1988 BUDGET REDUCTION

Senator BURDICK. Will a reduction in funding in fiscal year 1989 affect the operation of the export promotion programs, really?

Mr. KAY. Insofar as the reduction of the $3 million, that, of course, is basically the cooperator program. Insofar as the export promotion programs carried out by FAS, including Public Law 480, the Export Enhancement Program, the TEA Program, and our regular market development activities, we do not foresee that there will be any curtailment of these programs under the proposed reduction.

I would point out that in our budget request we had asked for approximately $1.1 million to take care of overseas cost and inflation once again. We did not receive that. We will probably have some difficulties, as we did last year, in keeping some of our offices operating, particularly when you consider not only the devaluation of the dollar but countries like Mexico, where the inflation rate is rising even faster than the appreciation of the dollar. It remains to be seen yet exactly how our overseas operations would be affected by inflation. But I would point out that this is a continuing problem with us.

Senator SPECTER. Mr. Chairman, I wonder if I might interrupt just a moment.

Senator BURDICK. Certainly.

Senator SPECTER. I regret that I cannot stay because of other committee assignments, but I would like to submit questions for the record.

Senator BURDICK. Certainly.

Senator SPECTER. Thank you very much, Mr. Chairman.

Senator BURDICK. Would you care to ask them now? I will give you some time now if you like.

Senator SPECTER. No; I prefer to submit them.

FAS AND INCREASED AGRICULTURAL EXPORTS

Senator BURDICK. All right. I am going to toss you a kitten ball now. You know what that is, don't you?

Mr. KAY. Oh, all right. It is nice to have one every now and then. [Laughter.]

Senator BURDICK. I want you to develop an answer to it, I know what it is going to be, but I want to give you a chance to say for the record. Is there any correlation between the activities of FAS and the increase in U.S. agricultural exports? [Laughter.]

Mr. KAY. I am a modest man, Mr. Chairman.

I don't think there is any question about the fact that you can prove correlation between the two. I certainly would not want to take credit for all the increase in exports because you know as well as I do that the devaluation of the dollar has had something to do with it; that improved economies in Third World countries have had something to do with it; that reduced interest rates have had something to do with it; that crop conditions in other countries have had something to do with it. But I would also point out that with the additional programs that the Congress gave us, like the Export Enhancement Program, and the Targeted Export Assistance Program, and the other 12 programs that we inherited through the 1985 farm bill, and with the increased appropriations you have given to us to implement these programs, we feel that the implementation of these programs by FAS have been instrumental in increasing the export value and volume of U.S. agricultural commodities.

AGRICULTURAL AID AND TRADE MISSIONS

Senator BURDICK. Thank you.

A few weeks ago, Mr. Kay, we exchanged correspondence about the implementation of the Agricultural Aid and Trade Missions Program. You mentioned that the FAS hopes to publish a list of target countries in the near future and complete at least eight missions by June. I understand that it is necessary to achieve a waiver of the Federal Advisory Committee Act before the missions may be authorized to go abroad. Will FAS be required to amend its initial schedule for the trade missions?

Mr. KAY. My feeling is, Mr. Chairman, that perhaps a total of eight nations by June is a little ambitious at this point. We have, as you know, announced the first two countries that Secretary Lyng has chosen, they being Indonesia and the Philippines.

The decision by the General Counsel's Office that the legislation as passed by the Congress, since it requires a report to be given with advice as well to the President and to the Congress, that the participants on these missions would come under the Federal Advisory Committee Act. That would delay implementation because, as you know under that act, those who participate in those missions have to have security clearances. We have found in our experience on our other advisory committees that it takes 3 or 4 months to get security clearances for those who participate.

It makes it doubly difficult because we did not anticipate that the same ones would be going on the same missions. So, consequently, you have a different set of people going on the various missions.

Now we have proceeded at any rate to charter the trade and aid missions, as we were required to do under the Federal Advisory Committee Act if there is no exemption. I am told that legislation is presently underway to exempt us from that.

We also feel that in designing the trade and development missions, it is awfully important for us to do missions that are meaningful, not just to complete 8 or 16 missions to say we have done it in order to fulfill the law. The Congress gave us $200,000 for these aid and trade missions for 1988. There is no money appropriated beyond fiscal year 1988.

My feeling is that if we do these trade and aid missions meaningfully that we are going to have to insist on quality rather than quantity. But under the circumstances, I will assure you, sir, that we are going to do the very best that we can.

Senator BURDICK. I think at one time you envisioned having 16 missions this year. Will you come close to that?

Mr. KAY. If I remember the law as passed by the Congress, they have asked us to do 16 missions by the end of the calendar year 1988. And I must tell you, Senator, that I really do not envision that there is any way possible to do 16 meaningful missions between now and then, not only because of the quality question, but I am very doubtful that $200,000 would be enough money to finance 16 different trade missions.

Senator BURDICK. Will additional funding be required in fiscal year 1989 for the trade missions or for publication of their recommendations?

Mr. KAY. Well, as you know, Mr. Chairman, there is no money in the President's budget for 1989 for these missions. But if they are to be continued, then there is no question about the fact that additional funding would be required.

There is another caveat here which was brought to my attention just the other day. Under the regular appropriations law, there is a prohibition against using money for any other purpose in FAS other than that for which it has been appropriated. That being the case, we see that there would be no authority to transfer funds for this purpose unless those funds were earmarked in an appropriation kind of action.

TRADE BILL AND INCREASED STAFFING FOR FAS

Senator BURDICK. The provisions of H.R. 3 relating to agriculture call for an increase of FAS personnel to 900 full-time staff and would provide their designation as minister counselors to senior FAS personnel.

What is the corresponding increase in funding that would be necessary for FAS to retain 900 full-time staff?

Mr. KAY. Well, Congressman—excuse me, Senator. I apologize.

Senator BURDICK. Forget it.

Mr. KAY. When I think about 900 people——

Senator BURDICK. I was a Congressman once, so it is all right. [Laughter.]

Mr. KAY. As an example, of the $1.5 million you appropriated to us last year for MTN support, we used approximately $1 million to hire an additional 20 people. That being the case, you could say that basically for every 20 people you are talking about approximately $1 million.

Now, of course, that depends, because it is much more expensive to send people overseas than to keep them here. We figure that the costs of maintaining our personnel overseas, including travel and housing, is at least $125,000 per person.

So the extent of funding necessary would be determined by whether or not those people are used here or whether any of them would be deployed overseas.

There is something that should be pointed out here in that the reduction that FAS has had in personnel over the period of years has basically been taken out of the staff here in Washington. We have reduced our overseas personnel very little. We have rearranged our appointments overseas to send our counselors and attachés to those areas where we believe they can do most good, and where the export potential is greatest. But the numbers have remained somewhat static. The reductions have been basically taken here at home. I cannot emphasize the fact that with the additional programs that the Congress has given us, and the additional burden on the personnel that we have, that it is important for us to maintain a strong home base in order to provide the service and support that our people overseas need.

My feeling is that if the Congress ever appropriated funds for those additional personnel—and in the Senate bill it does say 900; I believe in the House bill it is 850—that it would be important for us to utilize those people to our best ability here at home in order to provide support overseas. This is not to say that in some instances we would not try to increase some of our personnel overseas. We have gone through an overseas staff review with the State Department. It is awfully difficult to get the State Department to approve additional people overseas right now because of the cost and security measures associated with people overseas.

We had the Ambassador from Tunisia in just yesterday to see the Secretary, and he was urging us to put a person in the trade office in Tunisia. We are looking at that, and we would look very carefully at whatever decision the Congress might make as to how additional personnel might best be utilized here at home in the commodity divisions, especially with the TEA Program increasing from $110 to $295 million versus the formula of personnel overseas.

Senator BURDICK. What additional attaché offices might be opened? In what countries?

Mr. KAY. We look at that from time to time, Senator, as to whether or not we are using our resources wisely and well in their deployment overseas. I mentioned the request by the Ambassador of Tunisia just yesterday. When we went through the staffing review some 2 years ago, we did take our person out of Bangladesh. With the increased emphasis on the Pacific Rim, there is a possibility that we could use additional personnel in China. My feeling was that if we look at additional personnel overseas that the Pacific Rim countries would be the area, along with some of the African countries, where we should perhaps concentrate.

Senator BURDICK. Well, thank you very much. I may come back to you again.

Mr. KAY. Yes, sir.

Senator BURDICK. I turn now to Dr. Wallace.

The President's fiscal year 1989 budget request for the Office of International Cooperation and Development can be contrasted to the fiscal year 1988 budget request in that the administration of international research and development and planning and analysis activities are not proposed for reduction. What has prompted the shift in emphasis from reducing to maintaining these programs?

Dr. WALLACE. The first program that is going to be reduced is the Foreign Currency Research Program, which is the utilization of currencies other than U.S. dollars to do research overseas that benefits U.S. agriculture. And the other program is the Middle-Income Countries Training Program. This program is going to be phased out.

We are fortunate that the Congress saw to it that we had the opportunity to experiment, to do a pilot project which would be helpful to the middle-income countries to provide training for them in a variety of areas that would result, we hope, in the promotion of trade or in reducing some barriers to trade.

We have phased out these two programs because we are participating in the budget deficit reduction, and because the second program was an initiative of the Congress.

Senator BURDICK. The International Organization Affairs Division is proposed for an increase of $145,000 in fiscal year 1989. What is the purpose of this increase, and does FAS have personnel in Rome that might assist with USDA representation and the interests of OICD?

Dr. WALLACE. In the Rome mission, which is the mission to the food and agricultural organizations there in Rome—the FAO, the World Food Council, the International Fund for Agricultural Development, and the World Food Program—there is an ambassador, two State Department staff, two U.S. AID staff, and we have had in the past an agricultural attaché, who helped with the agricultural programs, attending committee meetings all year long.

We are also very cognizant, Mr. Chairman, that these are agriculture agencies. FAS does have an agriculture attaché, or counselor, in Rome, but the workload is very, very heavy for the mission. Attending the meetings throughout the year, as well as preparing for the conferences and being a liaison for U.S. staff who are in the food and agricultural organizations, is a full-time job. There are just not enough people in the FAS office to provide that kind of service.

So the increase we are requesting is to continue having an agricultural attaché in the food and agriculture mission.

Senator BURDICK. Arriving at our committee is the gentleman from Mississippi.

Senator COCHRAN. Mr. Chairman, thank you.

Senator BURDICK. Mr. Cochran, would you care to ask some questions?

Senator COCHRAN. I appreciate your recognizing me. I understand that a good many of the questions that I was going to raise have been discussed already. I may have some other questions in order to clarify and to get some more details on some of our foreign agricultural initiatives, and I would like to have the opportunity to submit those questions for the record, Mr. Chairman.

Senator BURDICK. Certainly.

GSM-102

Senator COCHRAN. In addition to that, let me just ask the General Sales Manager or Mr. Tom Kay a couple questions about the GSM-102 program. The President's budget proposes a reduction in GSM-102 short-term export credit guarantees from $5 billion in fiscal year 1988 to $3 billion in fiscal year 1989. I understand registrations under GSM-102 were below authorized levels in fiscal year 1987 and in 1988. With a weakening of the dollar and other market factors, do you expect a substantial increase in requests for utilization of GSM-102?

Mr. KAY. Senator, in your absence, I was drilled pretty good by the chairman and I am afraid that Mr. Sims will have his feelings hurt if he doesn't get to speak up, so I will let him answer that question.

Mr. SIMS. Thank you, Mr. Kay.

During 1986, the total registrations under the program, and in 1987 as well, were approximately $2.5 billion. This year, we are asking in total for $3 billion under GSM-102, plus $500 million under the GSM-103. We anticipate that the $3.5 billion in total will be adequate. However, we are watching the situation very closely. Should we see the possibilities that the resources will not be adequate, we will take the necessary steps so that the need can be satisfied.

Senator COCHRAN. From time to time I understand there have been concerns about how the GSM-102 agreements are administered in certain countries. For example, in some cases, the foreign government or central bank require the ultimate buyer to repay the funds provided under a guarantee on an accelerated schedule, and this denies the full benefits of the extended term. Is this a significant problem? If so, can the Department take action to modify the practice and ensure that U.S. customers receive full benefit from the program?

Mr. SIMS. It is a concern of ours. We want very much for the individual, the company, or the agency that makes the decision to buy from the United States or from some other country to receive the benefit of our credit guarantee program. And occasionally we do see the government or the central bank taking the 3-year credit and only passing on maybe 1 year to the importer.

Whenever we detect this, we talk to them. We do whatever we can to try to persuade them to pass this on. As a matter of fact, just recently we were considering one, and we said, this is available only if it is passed on to the importer. Otherwise, it is not going to happen.

That is about as strong a message as we have sent. But we are watching it. And in some cases, we have concluded that it is better to do it even though the importer does not receive all of it.

Now in many cases where the country does have a credit guarantee assurance—and in some cases they are assuming the foreign exchange risk that maybe an importer in the private sector is unwilling to do—then I think we have some reason to say that the central bank has the right to a part of the benefit.

TARGETED EXPORT ASSISTANCE PROGRAM

Senator COCHRAN. I have heard some complaints about the possibility of funds appropriated for traditional foreign market development programs being utilized for some targeted export assistance activities. This bothers some of the cooperator organizations. Has there been a merging of these two programs? If not, how do we keep them separate? Do you understand that these are two separate programs? Funding for targeted export assistance is to be used in one way, for one purpose, and in certain situations, and the Foreign Market Development Program is to be used in another way?

Mr. KAY. Senator, we have looked on the Targeted Export Assistance Program as quite separate and distinct from the cooperator program, because the Targeted Export Assistance Program was designed for one purpose, to counter or offset unfair trade practices, with preference being given to those commodities that had successful 301 cases.

We have looked on the TEA Program as a reactive kind of a program which, as a matter of fact, has some negative aspects in that it is used to address unfair trading practices, and where retaliation has taken place against some of our people because they have had successful 301 cases.

The cooperator program is designed basically as a long-term program in which, through gentle persuasion, we encourage our markets overseas. The TEA Program is directed toward shorter term advertising and promotion, that has enabled us to saturate advertising markets like we have never been able to do with the cooperator program.

We have kept the TEA Program separate and distinct, but we also feel that one complements the other, but with different purposes in mind.

One of the encouraging things about the TEA Program versus the cooperator program has been that we have brought in some new people who we have never had before under our cooperator program, some 21 different organizations that have not participated with us before.

My feeling is that as the TEA Program expires at the end of the farm bill, if it is not renewed, that these are potential candidates for the longer term cooperator program. And so, consequently, we have not only used TEA funds for some of our cooperator participants, but we have also used it for new participants. And our feeling is as long as we can keep the two separate, looking on the TEA Program as a 5-year program or however long the Congress may keep it in effect, and the cooperator program as being a long-term program with funds appropriated annually, that we are better off with that concept.

Senator COCHRAN. Thank you.

I think you have made a very good explanation of the differences in the programs, and I congratulate you for the way in which you have gone about utilizing these appropriated funds. I think they have made a big difference in our ability to sell in overseas markets.

The Middle-Income Country Training Program, of course, is a program that I have followed very closely, and I want to just ask for an update from Dr. Wallace. Does the United States continue to benefit from this program? Could you tell us how? What are some of the changes that are occurring in the program that are significant.

Dr. WALLACE. Well, fiscal year 1988 is our fifth year, Senator, and it has been a very, very active and popular program. It has been popular with the attachés of FAS; it has been popular with the participants. It has changed over those 5 years. It started out being a program which would have about one-half of the participants being here for long-term degrees—master's degrees. Now only 2 percent are here for long-term degrees. The others come for short-term training with very specific kinds of things in mind.

For example, we had some people from Cote d'Ivoire who were interested in milling rice, and they came here for training. We worked with the cooperators. We understand that there are negotiations underfoot for the sale of 14,000 tons of cargo rice to that country. They are expecting to have 150,000 more tons once there is some additional training

We have had Koreans come and want to learn about our wood products. And we are hoping that after they have had some training in the issue of the kinds of woods that are available that they will be constructing homes out of American wood.

We have had Koreans also come and look at our citrus in California and in Florida and study the regulations and the storage. There have been some barriers, I understand, in terms of exporting citrus out of the United States into Korea. But we are hoping that after this particular kind of training, we will be helping to open some markets.

We have had people from Turkey studying tobacco and how we are processing tobacco here. They are studying storage, and pricing and cigarette preparation, again, with the eye to importing tobacco from the United States.

So we have a number of those activities.

The other thing that has happened is that we have leveraged our funds. We have had $1.5 million a year each year. And, originally, we were giving full scholarships with travel and per diem. Now we no longer pay travel expenses. Travel is paid by all of the countries that are participating and we have 14 countries participating this year. That, again, gives us more funds to use.

We have also had some in-kind donations, I suppose one might say, of travel throughout the United States by some of the cooperators.

We have had courses offered with a mixture of university and private sector participation.

We have had more countries and more participants—230 now. We started with 102 participants. So we really doubled—more than doubled—the number of people that we have been able to train with the small amount of money that we have received. We hope to have an evaluation very soon. We had one 2 years ago and we want to do another one because the program really has a different look and we think is getting the most bang for the buck.

Senator COCHRAN. Thank you, Dr. Wallace.

I think the administration of the program has been carried out in a very innovative and imaginative way—taking advantage of others who are interested, not just government agency interest, but cooperators, and industry here in the United States. To me, I think that has proven that it is a worthwhile program and that we in the United States do benefit from it. It is not just a giveaway program, we are not just giving something to others. We are really providing opportunities for exchange of information, exchange of ideas, and I think this is leading to increased trade opportunities and other benefits for the United States as well.

Dr. Wallace, I think you and others in OICD have done an excellent job in carrying out this program, and I commend you all for that.

Dr. WALLACE. Thank you, Senator.

Senator COCHRAN. I want to thank you.

Thank you, Mr. Chairman.

EXPORT PROGRAMS OF THE FOOD SECURITY ACT OF 1985

Senator BURDICK. Senator Grassley.

Senator GRASSLEY. Mr. Chairman, I am going to have most of my questions submitted for answers in writing, but I do want to ask Mr. Kay one question first.

You remember in the 1985 farm bill—what we call the Food Security Act—we expanded export programs and increased the burden placed on our overseas offices. You talked about this to some extent in your testimony. Does the current budget allow these offices to adequately meet all the program demands being placed on the attachés under the new program?

Mr. KAY. Two things, Senator. In large part, thanks to this committee, we were allowed to keep open the 13 offices that looked as though we might have to close this time last year. This is not to say that an additional burden has not been placed on our attachés and counselors in the field, as well as our people here at home. What, with increased reporting required by the programs that the Congress has given us to carry out, we have to have much more networking from them than we have ever had before. But thanks again tc your committee, you gave us authority to contract out overseas. As the burden became too much for our overseas personnel, they now, like the State Department and AID and others, have authority to contract out to obtain whatever assistance they might need. And so because of that, we feel that the situation is in hand and that we can adequately carry out our function.

Senator GRASSLEY. All right.

So the only question is whether or not it can be done with personnel as opposed to contracting out.

Mr. KAY. That is right.

Senator GRASSLEY. But from your standpoint, as I think you made very clear, it is being done in meeting the criteria set forth in the 1985 farm bill.

Mr. KAY. Yes, sir,

Senator GRASSLEY. Thank you.

Mr. Chairman, I will submit the rest of my questions.

TRADE BILL AND INCREASED TEA FUNDING

Senator BURDICK. Fine. H.R. 3 includes a revision that would increase the targeted export assistance funding to $215 million in fiscal year 1988. What is your position on this provision? Would FAS be able to program effectively this level of commodities and funds during 1988? And how would the audits be conducted?

In case I cannot find another one, I will address this to Mr. Goldberg. [Laughter.]

Mr. GOLDBERG. I am going to defer, Mr. Chairman, to Mr. Kay. He has got the numbers.

Mr. KAY. The TEA Program as authorized by the Congress, Mr. Chairman, gave us $110 million for 1986, 1987, and 1988. We have programmed all of that. As you know, last year we sent a legislative proposal to the Hill reducing the level for 1988 from $110 million to $80 million in order to maintain our cooperator program. But Congress, as you know, never passed that, so we have programmed the full $110 million.

This is not to say that we could not have programmed more. We had some people, as always, who felt that they should have received more. We felt that in our evaluation process that we treated all participants fairly.

It is my feeling that most of the ones who have received funds under the TEA Program have their hands full at this time using the funds they have already received. I anticipate that in 1989 we will have requests from our present participants in amounts exceeding that which they have requested up to now, and that we will have many new applicants in the TEA Program since the funds do increase in 1989.

My honest opinion is that the funds we had available in 1988 are adequate at the $110 million level.

TITLE II OF PUBLIC LAW 480

Senator BURDICK. Concern about our particular areas of the world, such as Africa and India, as well as higher than anticipated commodity prices, accounted for this committee's decision to fund title II at a level that is $95 million greater than the budget estimate for fiscal year 1988. Do you plan to meet the title II subminimum tonnage level of $1.425 million tons in fiscal year 1988? If not, why not? What tonnage are you planning on? Does anybody want that question?

Mr. SIMS. The answer is yes, we do intend to satisfy the law. There is a minimum tonnage of 1.9 million metric tons under title II as a whole, and we feel comfortable that that will be exceeded.

Now the number you mentioned I believe is for the voluntary agencies. And this is primarily administered by the Agency for International Development. As you know, agriculture takes the lead in title I and title III, and AID takes the lead in title II. But it is my understanding that the plans are that we will meet or exceed the minimum tonnage.

DROUGHT IN ETHIOPIA

Senator BURDICK. While we are on this subject of aid and food aid, I have a number of questions on food aid to Africa that I will submit for the record, but I did want to raise one issue about the crisis in Ethiopia, and particularly the plight of the Ethiopian Jews.

Congress has certainly been very supportive of relief aid to Ethiopia. Many of us remain deeply concerned about the Ethiopian Government's human rights record.

When the Development Coordination Committee meets to discuss food aid issues, what kind of consideration is given to the human rights problems in Ethiopia and especially with the situation with the Ethiopian Jews? Now that is for anybody who wishes it.

Mr. GOLDBERG. Mr. Chairman, I think we would have to respond to the committee. I really do not have information from our agency as to what has been done in the humanitarian way with that problem. So we would be happy to submit the answer to that question for the record.

[The information follows:]

Senator, you are correct. Human rights are a consideration in providing food aid. In the case of emergency food aid provided under the authority of title II of Public Law 480, all of the food is destined for needy people and, therefore, such aid is exempted from a formal human rights determination. In the case of our food aid to Ethiopia, we are using the private voluntary agencies to deliver this food to help ensure that it benefits all needy people with no regard to their religion.

SUNFLOWER OIL ASSISTANCE PROGRAM

Senator BURDICK. In fiscal year 1988, appropriations for the Department of Agriculture established the Sunflower Oil Assistance Program. I have asked you this question before, but I want to know what the status of the regulations and the status of the program is at the moment.

Mr. KAY. Mr. Chairman, I am happy to report great progress. We have worked on this provision that was put into the continuing resolution. As you know, it involves basically three agencies: AMS, which is responsible for purchasing the sunflower oil; ASCS, that will have to store it; and, of course, FAS, that will administer the program of exports.

We have met and reached agreement as to exactly how we are going to carry out the program. We have prepared documents to get the delegation of authority from the Secretary through the Under Secretary's office to the General Sales Manager. We have prepared a notice to go to the Federal Register and it is now being circulated for final approval. This notice will outline how the program will be implemented, and should go to the Federal Register very soon.

We have tried to do this in a timely fashion, but we have also tried to do it in such a way as not to interfere with commercial sales nor with our Export Enhancement Programs that we have for vegetable oil. You will be happy to know that we have announced EEP's for vegetable oil to the tune of 585,000 tons, and, to date, sales to Turkey, India, Morocco, Tunisia, and Algeria total approximately 280,000 tons, of which around 109,000 tons of that has been sunflower oil.

The EEP's have given us valuable experience. We will use this experience as we implement the SOAP Program.

Another important phase will be to find a destination for the SOAP Program. We are working on that, and we think we have agreement. In sum, we feel good about the progress that we have made. The Federal Register announcement should be coming out soon and I hope you will be satisfied with how we intend to implement the program.

Senator BURDICK. It sounds like a good report.

SUBMITTED QUESTIONS

The following Senators will be submitting questions to you for the record: Senators Specter, Cochran, Grassley, McClure, Bumpers, Sasser, and me.

[The following questions were not asked at the hearing but were submitted for response for the record:]

FOREIGN AGRICULTURAL SERVICE

QUESTIONS SUBMITTED BY SENATOR BURDICK

MARKET DEVELOPMENT BUDGET

The fiscal year 1989 budget would reduce the foreign market development activities of FAS by over $3 million, yet leave the amounts appropriated for foreign agricultural affairs and foreign market information at the same levels as appropriated in fiscal year 1988.

Question: Please explain for the Committee, why the Foreign Market Development Program is slated for a $3 million reduction and what activities would be affected.

Answer: The fiscal year 1989 budget does propose a $3 million reduction in the Foreign Market Development Program below the level appropriated in fiscal year 1988. This reduction is necessary to help reduce Federal spending and thus the level of the budget deficit. This reduction will be applied against the Cooperator Market Development Program, bringing the budget for that program in line with historical funding levels.

Question: Why are the Foreign Agricultural Affairs and Market Information Programs not proposed to be reduced under the President's Budget?

Answer: The fiscal year 1989 budget for all FAS activities basically reflects a continuation of fiscal year 1988 requirements submitted to OMB prior to Congressional action on the 1988 appropriations. This included supplemental funding proposed for 1988 to offset overseas exchange rate losses and inflation, and funding to support the Multilateral Trade Negotiations. The reduction in Foreign Market Development brings that program in line with the initial level proposed in the President's budget for fiscal year 1988. Reductions in Foreign Agricultural Affairs and Market Information Programs would have an adverse impact on our ability to execute the export programs mandated in the Food Security Act and to provide adequate staff support for the Uruguay Round negotiations.

DOLLAR DEVALUATION AND OVERSEAS OPERATIONS

Last year, FAS recommended an increase in appropriations to offset the sharp decline in the value of the dollar overseas and its impact on operation of FAS attache offices.

Question: What is the status of the dollar currently?

Answer: The dollar has continued to weaken in the strong-currency countries of Western Europe and Asia. As examples, the U.S. dollar has depreciated by 51 percent against the Japanese Yen since 1985, 17.5 percent from one year ago. Over the same period, the U.S. dollar has depreciated 50 percent against the German Mark, 11 percent since last year. In the growing export markets of Taiwan and South Korea, the dollar has depreciated by 19 percent and 8 percent, respectively, since last year. This situation, while having a very positive impact on the competitive position of U.S. exports, continues to place great pressure on the FAS overseas operating budget.

In the developing countries of Latin America, the U.S. dollar is generally appreciating against local currencies. However, inflation is increasing at a rapid pace, thus causing in-country operating costs to continue to increase.

Question: What do you estimate will be the impact on FAS overseas operations in fiscal year 1989?

Answer: In the aggregate, we estimate that our overseas operating costs will increase by approximately $1.1 million as the result of inflation and further depreciation of the dollar. Absorbing an increase of this magnitude probably cannot be accomplished without some impact on our overseas presence.

FEDERAL EMPLOYEE RETIREMENT SYSTEM

Question: What will be the cost of the Federal Employee Retirement System in fiscal year 1989?

Answer: The actual cost of the Federal Employee Retirement System will be greatly influenced by agency accessions and separations. At this time, we estimate the cost to be approximately $2 million.

Question: How does this compare to fiscal year 1988?

Answer: The estimate for fiscal year 1989 is approximately $300,000 higher than the $1.7 million estimated for the Federal Employees Retirement System in fiscal year 1988.

SUNFLOWER OIL ASSISTANCE PROGRAM

Question: Do you expect that the full $10 million in purchases for export will be accomplished by the end of the fiscal year?

Answer: To effectively use the $10 million to help support sunflower oil exports, the program will extend into fiscal year 1989, as authorized by the law. By not limiting the funds to fiscal year 1988, we maintain flexibility in the program and make it easier to avoid displacing non-subsidizing exporters.

Question: Has FAS or the General Sales Manager announced the availability of sunflower oil to any of our trading partners?

Answer: FAS is currently clearing a program proposal with the agencies of the Trade Policy Review Group, chaired by the Office of the U.S. Trade Representative. After that clearance, we will initiate discussion with officials in potential importing countries.

Question: Do you expect to offer export enhancement opportunities for the Mediterranean basin countries to obtain sunflower oil?

Answer: We have looked at Mediterranean basin countries which may be likely candidates for the sunflower oil assistance program. Any country from that area which would be appropriate for the program certainly would be a prime candidate for targeting.

MARKET DEVELOPMENT AND ECONOMIC DEVELOPMENT

H.R. 3 encourages agricultural attaches to focus attention on market development for U.S. products abroad.

Question: Do you expect that Agricultural Attaches will encourage market development at the exclusion of other activities?

Answer: We do not expect Agricultural Counselors/Attaches to exclude other activities in their efforts to foster market development. In fact many of their activities are complementary to marketing efforts--including sound economic analysis and their work on trade barriers.

Question: Will Agricultural Attaches be involved in efforts that will allow developing nations to improve their positions as trading partners with the U.S.?

Answer: Within the Embassy country team framework, the FAS Counselors/Attaches are involved in economic development efforts which may improve the host country's position as a trading partner. These efforts include the economic development provisions of the P.L. 480 program which has permitted a number of countries--including Japan--to graduate from assistance programs to commercial markets.

Question: Will Attaches encourage U.S. exports of technology and resources that would allow third world countries to produce and eventually enter the world marketplace?

Answer: It is in the United States' long-term interest to assist third world countries in their efforts to develop their economies and to enter the world market--strong viable economies make for good strong trading partners.

MARKET DEVELOPMENT AND DEVELOPING COUNTRY TRADE

Question: How will FAS encourage both market development for U.S. exports and opportunities for developing nations to engage actively in trade with the U.S.?

Answer: FAS is spending an increasing percentage of its Cooperator Program market development resources in developing countries. In fiscal year 1977 about 32 percent of the cooperator budget went to developing countries. Last year nearly 65 percent of the cooperator budget was spent in those countries. Many of the cooperators' market development programs include technology transfer elements, including assistance to the development of agricultural product consuming livestock industries, and to various agricultural product processing industries. Efficiency gains from this technology transfer free up resources in those countries, which can then be devoted to enterprise development which increases those countries foreign trade potential. Income growth in developing countries goes hand-in-hand with increased demand for agricultural imports, benefiting U.S. farmers, while it also helps those countries move beyond inward-looking import-substitution development strategies.

TEA PROGRAM AUDITS

H.R. 3 includes a provision that would increase the Targeted Export Assistance funding to $215,000,000 in fiscal year 1988.

Question: How would audits be conducted?

Answer: Audits of the TEA program are conducted by the Compliance Review Staff, a branch of the FAS management section which operates independently of our marketing program sections, as well as by the Department's Office of the Inspector General (OIG). Our activities are also reviewed from time to time by the Government Accounting Office (GAO). FAS internal audits include scheduled reviews of program documentation, expenditures and compliance with published program guidelines.

RELIABILITY OF AUDITS

Question: Would such audits be reliable?

Answer: We have found these audits to be very reliable. We inform all potential program participants that their records must be made available for outside audits, and include provisions to this effect in all program agreements. We also advise participants in detail on what records they must maintain to justify claims for reimbursement. Because inadequate documentation will preclude the use of government funds, the quality of record keeping is generally excellent.

USE OF TEA FOR COUNTERVAILING DUTY DEFENSES

Question: What is the FAS position on reimbursing organizations for expenditures relative to defending countervailing duty actions under Section 603(c) of the House bill?

Answer: We are opposed to providing reimbursement to organizations for expenditures incurred in defending countervailing duty actions. We have several reasons for this position. We firmly believe that such a practice would exceed the program's intent and interfere with the effective use of the TEA program as a market development tool in countering unfair foreign trade practices. There is, in fact, some possibility that the use of U.S. government resources in this manner could result in a further increase of the countervailing duty. Of fundamental concern is the suggestion that CCC resources, heretofore used only to develop, maintain, or expand international markets for U.S. agricultural exports, should now be used to reimburse for legal fees. Once we start providing relief to particular agricultural organizations with particular problems from CCC resources, it will be hard to draw the line on future requests.

Question: What is your position on the Senate provision (Section 2133(B))?

Answer: Our position is the same as our position on the House provision; we oppose the use of the TEA program and CCC resources for this type of activity.

TARGETED EXPORT ASSISTANCE PROGRAM - GENERIC CERTIFICATE PREMIUMS

Question: Has FAS contemplated placing restrictions on the use of CCC generic certificate premiums in the TEA program in 1989 and 1990?

Answer: We believe that neither the need nor legal justification exist for placing formal limitations on the use of certificate premiums in the TEA program. For us to do so under TEA would depart from the way in which CCC certificates are used in other situations like payments to farmers under domestic farm programs. In all cases, CCC limits its financial liability in the issuance of generic commodity certificates to the face value of the certificate. If the certificates are liquidated at a loss or less than their face value, CCC will not make up the difference. Likewise, if the certificates generate a premium, the proceeds are the sole property of the participant. The TEA program should not be made an exception to this general rule for certificate programs.

REQUIRING USE OF PREMIUMS FOR MARKET DEVELOPMENT

Question: Would requiring the use of premiums for market development purposes be a viable consideration?

Answer: Premiums earned on the liquidation of the generic certificates are already being used for market development purposes. For example, when they request program advances, TEA participants have been voluntarily committing and certifying that any premium and interest earned on the liquidation of the certificates will be used in support of market development activities. Because we have excluded administrative expenses from being eligible for reimbursement, premiums earned are being used to offset the higher costs incurred in managing increased and additional foreign market development activities.

P.L. 480

The President's budget request calls for an increase of transfer authority between Title I and III and Title II of P.L. 480 of up to 15 percent.

Question: Why is the current 10 percent transfer authority not sufficient?

Answer: A 15 percent transfer authority among titles is the level authorized by the underlying P.L. 480 statute. We have requested an increase to this level in fiscal year 1989 Appropriation Act. Because of the unforeseen needs for emergency food assistance which frequently arise, we believe this increased flexibility would enable us to respond better to those emergencies.

Question: Some might argue that greater transfer authority might permit a depletion of commodities available for donation under Title II not intended by Congress. Could you pleas comment on this assertion?

Answer: Our purpose in requesting an increase in transfer authority is to enable us to respond more effectively to food aid needs with the P.L. 480 program and to maximize the benefits of the program. Over the years, the transfer authority has been used both ways. In the current year, we anticipate this authority will be used to transfer funds from Title I to Title II.

Question: What is the amount of fiscal year 1988 funds that has been transferred to which Title to date?

Answer: At the present time a transfer of funds from Title I to Title II is anticipated, but it has not yet been done.

P.L. 480 - TITLE II

Concern about particular areas of the world, such as Africa and India, as well as higher than anticipated commodity prices, accounted for this committee's decision to fund Title II at a level that is $95 million greater than the budget estimate for fiscal year 1988.

Question: Are there any outstanding applications from private voluntary organizations that have not been acted on?

Answer: Most regular private voluntary agency proposals are reviewed at the onset of the operating year. However, new or out of cycle programs are considered by the interagency review committee throughout the year. Currently, the committee has some proposed program initiatives for Africa and Asia under review.

Question: Could the World Food Program absorb the remaining amount?

Answer: While it may be possible for the World Food Program to absorb additional tonnage in their regular programs, we would not expect this vehicle to use the additional $95 million. Rather as reflected in the previous question, we would expect to use these funds to meet emergency needs.

Question: Provide the committee with a report on how you intend to reach the Title II subminimum by April 1, 1988, as required by statute?

Answer: Even though we are actively encouraging new innovative Title II programs such as feeding programs to support structural adjustment, we estimate that we may still fall slightly short of the subminimum this year. However, we will continue to encourage voluntary agency initiatives and new programs.

Question: How do current commodity prices compare to those upon which the budget estimate was based in 1988?

Answer: The commodity prices for the 1989 budget were based on estimates prepared in November 1987 and reflect generally higher commodity prices than those used to prepare the 1988 budget. While we are currently updating these commodity price forecasts used for budgeting activities, we do not anticipate much change in the fiscal year 1989 estimates.

Question: Will the same level of commodities be provided in fiscal year 1989 as in fiscal year 1988, according to your estimates?

Answer: We expect to achieve the mandated Title II tonnage of 1.9 million metric tons in fiscal year 1989. This tonnage will be a little lower than our current projection for tonnage in fiscal year 1988.

AGRICULTURAL PRODUCTION RECOVERY PROSPECTS

Question: What is the outlook for production in those parts of the world that experienced severe shortages in fiscal year 1988?

Answer: In Africa, production shortages in numerous countries last year resulted from bad weather and civil strife. This year, planting for the main crop season in Sub-Saharan Africa will occur in the June-August period. While drought conditions at planting time would sharply reduce output, it is too early to forecast crop outlook. Nonetheless, it would require above average rains to bring significant relief this year. In Northwest Africa, grain crops approaching harvest are currently being threatened by locusts. Control efforts are underway; however, the potential exists for production shortages if the control efforts fail.

In Asia, crop production showed sharp declines in several countries last year primarily due to a major failure of the monsoon rains. Currently, wheat is approaching harvest in Pakistan and India. The production outlook in Pakistan has been diminished because of drought, while a normal crop is expected in India. As in all years, the major factor affecting overall crop production in this region will be the monsoon rains. Although the monsoon does not begin until June, the overall outlook is for a recovery in agricultural production.

P.L. 480 TITLE II SHIPMENTS

P.L. 480 Title II law says that 75 percent of the shipments for non-emergency programs should be in the form of processed and bagged products.

Question: What is your percentage for these shipments?

Answer: Currently, we are in compliance with this mandate.

Question: What are you doing to meet the target?

Answer: During fiscal year 1988 we have approved nearly 1.3 million metric tons of processed/bagged/fortified commodities for shipment for Title II regular programs.

GREAT LAKES SET ASIDE

The 1985 Food Security Act sets aside part of P.L. 480 Title II to be exported from Great Lakes ports. Recently, USDA purchased approximately 15,000 tons of Title II commodities and allocated them to Chicago, for transport by barge, through the inland river system for eventual export on an ocean-going U.S. flag vessel from the Gulf Coast area. USDA claims this is a Great Lakes export, and is deducting it from the Title II tonnage available to Great Lakes ports under the set-aside.

Question: How does USDA count this Inland Waterway shipment with regard to the Great Lakes set-aside?

Answer: The USDA and the Department of Transportation, which is given responsibility for assuring compliance with the Great Lakes tonnage reservation, consider the shipment to count against the Great Lakes set-aside.

Question: What evidence does it have that Congressional intent in passing this set-aside law in 1985 was to have the set-aside shipments be exported through the Inland Waterway?

Answer: Section 901b(c)(2)(B) of the Merchant Marine Act, 1936, as amended, provides for a tonnage reservation "of waterborne cargoes exported from Great Lakes Ports" under P.L. 480, Title II. Only tonnage determined to meet this provision will be counted towards fulfilling the reservation.

Question: Does it also score this same shipment as part of the law's U.S. flag cargo preference requirement, because of the ocean vessel sailing out of the Gulf?

Answer: The shipment will be considered a U.S. flag shipment which will apply against the 75 percent minimum U.S. flag requirement which takes effect on April 1 for the 1988-1989 cargo preference year. The fact, that it is considered a U.S. flag shipment is not based on its being shipped out of the Gulf, but rather because it is a qualified U.S. flag registered vessel.

Question: How can a cargo exported out of the Gulf at the same time be attributed as a Great Lakes set-aside export?

Answer: The service in question is similar to other LASH barge movements which have occurred for many years under the program. A LASH barge is considered to be an ocean going conveyance and the export bill of lading that is issued will show the loading port as the port of export. In this case, the Great Lakes port of Chicago will be shown as the loading port. The voyage commences once the barges have been loaded and leave the loading port. It should be noted that this service will generate all the revenues for the Great Lakes, except for Seaway tolls, that any other shipment would generate. This will include port charges, warehousing fees, and stevedoring and longshoreman revenues.

P. L. 480 AND SECTION 416 - CARGO PREFERENCE

The Food Security Act requires that the Department of Transportation pay the ocean freight differential for increases in U.S. flag vessels contracted for shipment of commodities under P.L. 480 and Section 416. Last year, a delay in agreement on an interdepartmental Memorandum of Understanding on payment of the differential resulted in untimely reimbursement for these costs.

Question: What is the current status of these reimbursements?

Answer: The cargo preference agreement with the the Department of Transportation is being implemented on schedule and reimbursements from the Department of Transportation to the Commodity Credit Corporation are being made according to that agreement.

Question: In what time frame is DOT reimbursing CCC for the costs of cargo preference?

Answer: Reimbursements are made to CCC on a quarterly basis throughout each year.

Question: What is the amount currently outstanding?

Answer: The CCC has submitted bills totaling $33.4 million to the Department of Transportation for the first three quarters of the cargo preference year which began April 1, 1987. The remaining balance due for P.L. 480 and Section 416(b) programs is $18.6 million.

Question: What was the total cost of cargo preference for each of the fiscal years 1986, 1987, and 1988?

Answer: The Food Security Act of 1985 established April 1, 1986 to March 31, 1987 as the first cargo preference year in which the Department of Transportation would reimburse CCC for the increased tonnage mov~~ing on~~ U.S. flag vessels. During this 1987 cargo preference year the total ocean freight differential paid was $148 million. The total ocean freight differential paid during the first three quarters of the 1988 cargo preference year was $124 million.

Question: In each year, what is the amount that has been paid by DOT?

Answer: In the 1987 cargo preference year (April - March 31) the Department of Transportation paid $23 million of the total ocean freight differential. The Department of Transportation's share of the 1988 cargo preference costs through the first three quarters is just over $33 million.

Question: What are the estimates for fiscal year 1989?

Answer: Recognizing there will be some differences from the cargo preference year we are estimating the cost of preference for P.L. 480 to be approximately $145 million in fiscal year 1989. We do not have an estimate of cargo preference cost for Section 416(b) since this program is dependent upon the availability of CCC stocks and country agreements to be developed in fiscal year 1989.

ELIMINATION OF FARM SUBSIDIES

Question: Mr. Kay, are you involved with the trade mission team representing the Reagan Administration proposal to eliminate all farm subsidies by the year 2000?

Answer: Yes. My staff has been directly involved in the development and elaboration of U.S. positions on issues stemming from the U.S. proposal. We have cooperated closely with the U.S. Trade Representative's Office to prepare supplementary position papers in support of our proposal. Many of these have been presented at the Agriculture Negotiating Group meetings in Geneva. Others have addressed particular concerns expressed by our trading partners and have explained why multilateral reduction in agricultural support systems is urgently needed and the benefits of liberalizing world agricultural trade in the Uruguay Round.

Question: How is this proposal being received by the European Community?

Answer: The EC feels that the U.S. proposal is unrealistic under present circumstances and has called for trade negotiations to proceed on a less ambitious scale. While the EC claims to be open to the principles and objectives of the U.S. proposal, they have shown reluctance to significantly reform their agricultural policies. They have stated reservations regarding the methods by which agricultural trade would be liberalized, and the comprehensiveness asserted in the U.S. proposal. The EC recently made some adjustments in the Common Agricultural Policy in dairy, cereals, beef, and oilseeds and they have called on the U.S. to "match its declaration of intent with concrete measures with a comparable short-term effect". However, we do not feel that the European Community reforms are by any means sufficient to solve the problems currently facing production and trade in these commodities.

Question: How is it being received by Japan?

Answer: Japan has noted that while it agrees with the United States long term objective to allow market forces to function more effectively, our proposal is too ambitious. The Japanese have expressed reservations concerning the scope of the U.S. proposal, citing that the special characteristics of agriculture, such as constraints related to land resources, stability of food supply, and environmental protection, make it is difficult to consider agriculture in the same manner as industrial sectors.

Question: Do you believe that the elimination of subsidies by 2000 is a realistic plan?

Answer: Absolutely. The fact is governments are spending enormous amounts of money to support agriculture, surpluses abound, and trade relations are tense. In individual ways, countries are already taking steps to deal with these problems. However, it is generally accepted that government incentives to production must be reduced. A coordinated, multilateral approach is the only viable method of global reduction in trade distortions and would reduce the burden of adjustment for all countries. The time is ripe for the U.S. proposal.

Question: Are there countries supporting this plan?

Answer: Yes, the Cairns Group--consisting of Argentina, Australia, Brazil, Canada, Colombia, Chile, Hungary, Indonesia, Malaysia, Philippines, New Zealand, Thailand, and Uruguay--has enthusiastically supported the U.S. proposal. They agree with the United States that the current situation in agriculture requires that countries recognize the global impact of national policies and their interdependence; and that a new willingness to face these difficult issues is imperative despite very real domestic political concerns.

The Cairns proposal, tabled in October 1987, coincides with the U.S. proposal in the long-term objective to eliminate government intervention in agriculture. Other countries, particularly many developing countries, also support the general thrust of the U.S. proposal.

TRADE NEGOTIATIONS WITH JAPAN

With the April 1st termination for the 1984 U.S.-Japan agreement drawing near, explain a component of this trade issue.

In December to May, the rate of Ad Valorem Tariff assessed on fresh orange imports was 40 percent, as contrasted with the U.S. rate of approximately 5 percent during the same period.

Question: How does FAS and the U.S. negotiating team, in general, plan to approach this issue with the Japanese?

Answer: Our definition of access barriers to Japan's citrus market is not limited to the quotas, but includes the import duties on oranges. This situation is a high priority both as an example of high Japanese tariffs on a number of agricultural products and within the context of citrus market access.

Question: What is the current status of negotiations with Japan for removal of beef quotas on imported beef?

Answer: The current status is that the U.S. is waiting for a response from Japan to our clearly stated position that the beef quotas must come off.

Question: Do you anticipate any progress in the near future on this issue?

Answer: We are hopeful that Japan will recognize its obligations, both as a GATT signatory and a major trading partner, to undertake the sometimes painful steps of opening its market by the time our understanding expires on April 1.

ACCESS TO JAPAN'S RICE MARKET

An undercurrent of change is affecting the production of rice in Japan.

Question: How do you believe opening Japanese markets to imported rice would affect consumption in that country?

Answer: Rice consumption in Japan has been in a long term downtrend, which now appears to be stabilizing. While there is little reason to believe that opening the market to imports would actually result in a significant increase in total rice consumption, imports of the right varieties could be expected to capture a sizable portion of the market, especially if the price savings of imported rice could be passed through to the consumer.

Question: Is the U.S. negotiating with Japan to allow more rice to enter their markets?

Answer: The U.S. is negotiating for rice market access in the context of the MTN currently underway. We have an agreement from Japan that puts this issue on the negotiating table in the context of other nations, including the U.S., doing the same with their protective agricultural policies.

TARGETED EXPORT ASSISTANCE PROGRAM ALLOCATIONS

Question: What criteria are used by FAS in making TEA allocations?

Answer: FAS looks at a number of factors before making allocations of TEA resources. Before approving participation in the program, we must verify the existence of an unfair foreign trade practice. We are also very careful in the selection of the organization that will best represent the export interest of the commodity in question. We have a preference for working with a non-profit trade association that is representative of producers on a national or regional basis, to ensure that the benefits derived from such market development efforts will be translated back to the broadest possible range of beneficiaries. Where the nature of the U.S. agricultural sector organization is such that no single representative nonprofit organization can be identified, and where the export interest of the commodity are best served through private firms, we select private firms to carry out these market development activities on a shared-cost basis. Other important criteria in making TEA allocations include--the extent to which the commodity composition by weight, value or volume is U.S. origin, historical export levels of the commodity, the estimated level of actual or potential export loss attributable to the unfair trade practice, the likelihood of success and the projected increase in exports attributable to the level of funding requested, the applicant organization's prior export promotion experience, the ability and willingness of the organization to contribute its own resources to the joint promotion effort, the adequacy of the organization's personnel and financial resources in terms of developing, implementing and supervising a program of the size requested, the ability and willingness of the private U.S. agricultural industry to support the promotion with aggressive selling of the commodity in amounts and qualities demanded by foreign markets, and the outcome of past TEA program activities, if that information is available.

REVIEW OF ACTIVITY PLANS

Question: Are the activity plans of industry groups reviewed prior to approval of funding for a TEA project or following the final approval of funds?

Answer: Our approval of TEA program support is a multi-step process. First, allocation of resources are made based on submitted proposals for project support. Because demand for TEA resources has been greater than the resources available, proposals compete for a share of the total available. Once an organization has secured a commitment in principle for CCC for market development support, FAS requires a detailed activity plan, including information on the market situation confronted and barriers to be overcome, specific goals for each activity, budgets, evaluation plans, and a detailed description of each activity to be undertaken. The allocation of TEA resources for the promotion of a commodity does not permit the issuance of CCC commodity certificates; FAS activity plan approval is required before any claims for reimbursement will be honored.

DEVELOPMENT OF ACTIVITY PLANS

Question: Is the development of an activity plan a detailed process and is it costly for producer or industry groups?

Answer: Yes, the preparation of an activity plan is a very detailed process. The activity plan maps out specific activities aimed at countering or offsetting a constraint to increasing the export of their commodity in specific markets. As well, accounting and budget data are set forth with cost codes designed to facilitate program oversight. The plan serves to answer all questions about uses of TEA resources and serves as the instrument against which audits are conducted. Depending on the size and the extent to which the organizations have an experienced staff and the scope of the activity plan, the cost of developing activity plans vary. While the costs of preparing such a plan may be considerable, we see an organization's willingness and capability of undertaking this cooperative planning process with FAS as evidence that the organization has the administrative wherewithal to design effective market development activities, and to provide accountability in the expenditure of public funds. Over the years, we have found the professionalism with which cooperators and participants undertake the drafting of market development plans highly correlated with the success of their actual marketing efforts.

FAS SUPPORT FOR ACTIVITY PLANNING

Question: Does FAS assist in the development of activity plans?

Answer: FAS provides such assistance, although the great increase in the size of our programs over the last three years has meant that we have not been able to devote as much attention to assisting each private sector organization as we could in the past. Marketing specialists in seven commodity divisions work closely with TEA participants in developing market promotion strategies, modifying such strategies when called for, and serving as a resource for providing guidance into the complexities of program guidelines and government regulations. Although our staff resources are stretched across more programs and more program participants than ever before, we are working to sustain the joint government-industry character of our programs. We believe that the degree of cooperation between government and industry in the cooperator and TEA programs is unusual if not unique, and a major reason for those programs' high rate of success.

MONITORING TEA EXPENDITURES

Question: Has FAS found any difficulty in monitoring the use of TEA funds generally?

Answer: The drastic expansion in market development resources which resulted from the Food Security Act of 1985 was not initially accompanied by any increase in FAS staff resources, and this has presented administrative difficulties which we are working hard to overcome. Over a five year period, the TEA program will provide a total of as much as $980 million in additional resources that need to be managed, and the TEA program has already brought 21 new non-profit organizations and more than one hundred private companies into our joint market development programs. Explaining program requirements and assuring that new entrants understand that they will be held accountable for carrying out programs in conformity with established guidelines places great demands on our professional staff time. Nevertheless, we believe that the ways of operating developed over more than two decades of supervision of the Cooperator Program are proving effective in managing the TEA program, and that each year brings smoother administration and better financial management within the TEA program.

TEA PROGRAM AUDITS

Question: How does FAS audit the use of TEA funds currently?

Answer: FAS audits the TEA program on a regular basis. We have a Compliance Review Staff that audits TEA participant records to ensure that expenditure claims were permissible, that the organization has in place a system of controls that ensure adequate control on the expenditure of resources, that adequate records are being maintained to substantiate claims, and that the participant is complying with published program guidelines. Participants found not to have complied with the use of program resources are required to reimburse the CCC.

Question: Are interested parties involved in auditing TEA funds?

Answer: TEA programs are subject to audit by the FAS Compliance Review Staff, and the Department's Office of the Inspector General. Most TEA participants have their own independent auditors, who review TEA operations along with those organizations' other financial records.

CONFLICT OF INTEREST

Question: How does FAS guard against conflict-of-interest?

Answer: FAS has always reviewed proposed market development program plans with a view to assuring the broadest possible spread of benefits within agricultural industries. To clarify policy on issues which have been raised from time to time, a proposed rule on conflict of interest in market development programs is currently in the clearance process for publication in the Federal Register. The proposed rule covers the handling of trade leads, the selection of industry representatives on trade teams, and the involvement of organizations in export trade.

INCREASED FUNDING FOR TEA PROJECTS

Question: If increased funding for TEA projects were approved for fiscal year 1988, 1989, and 1990, how would those funds be distributed?

Answer: FAS has recently programmed an additional $30 million for the fiscal year 1988 TEA program, bringing the total for the current fiscal year to $110 million. To make the additional allocations, FAS reviewed requests received when the fiscal year 1988 program was first announced which could not be supported when the program level was set at $80 million. A further increase in 1988 funding would have little impact on increasing the level of TEA activities carried out during this fiscal year, since the TEA program allocation and activity planning process takes several months to complete.

In programming future year increases, FAS would follow the same procedures used in allocating resources under prior years' programs. A Federal Register notice informs interested parties of the availability of the program, its objectives, eligibility criteria, and how to submit an application. FAS then makes its allocation decisions based on information submitted by applicants, giving due attention to the priorities for commodities subject to favorable Section 301 determinations or trade retaliation mandated in the TEA authorizing legislation.

Question: Would current participants expand their projects or would new groups be permitted to participate in TEA?

Answer: We expect both developments. Existing program participants may expand the scope of their efforts and the distribution of their activities, while a number of new program participants will probably apply and receive program allocations. In the area of new participation, we have seen the TEA program draw 21 new participants into market development activities with FAS, and this does not include more than a hundred private firms with are working indirectly with FAS through non-profit cooperating industry and regional organizations.

ACCOUNTABILITY AND INCREASED FUNDING

Question: Do you anticipate any accountability problems if funding were increased during this period?

Answer: Substantial increases in program levels present a challenge to our program managers and auditors in performing their oversight and supervisory responsibilities. The agreements which we sign with program participants make it clear that they are held accountable for carrying out projects in conformity with program guidelines, that they must maintain detailed records of expenditures, that these records are subject to audit, and that they will have to reimburse the government for any expenditures found not in conformance with program guidelines. This procedure has worked well in the past, and we expect that it will continue to be an effective tool for program administration.

Question: How would you resolve these?

Answer: When conflicts between actions of TEA participants and program guidelines are identified, either through routine program oversight or in the course of an audit, the FAS Compliance Review

Staff investigates the situation, and findings, usually calling for reimbursement of payments in question, are communicated to the participant. The participant is given the opportunity to respond to the CRS finding. A final decision by FAS will then result in reimbursement or other appropriate corrective action.

PARTICIPANTS' ABILITY TO ABSORB MORE TEA RESOURCES

Question: Could TEA Program participants effectively absorb the doubling or tripling of resources proposed during the next few years?

Answer: Very rapid program expansion poses similar challenges both to program participants and to those charged with the responsibility for program oversight. These include the need for increased staffing, the time required to locate and train staff in the procedures needed to assure accountability for the use of public funds, and the need to budget increased administrative overhead. Some participants and agricultural industry sectors are probably in a position to deal effectively with substantial increases. Others will not be able to effectively manage additional funding.

Question: If significant increases in TEA were approved, would FAS require participants to contribute the same share of funds as in prior years.

Answer: FAS continues to believe that the requirement that participants contribute substantial resources to promotion programs in one of the best guarantees available to assure that program resources are used wisely. We would be reluctant to lower private sector contribution levels, simply to accommodate increased program resources availability.

TEA EXPENDITURE CATEGORIES

Question: Would the type of expenditures from which TEA funds are used be broadened? If so, what new expenses would be allowed?

Answer: Beginning with the fiscal year 1989 TEA program, we will be allowing some additional categories of foreign administrative expenses, and supervisory travel from home offices to overseas locations to be eligible for reimbursement. These prospective policy changes are already under discussion within the joint industry-government Policy Review and Operations Committee that periodically meets to discuss and resolve issues relating to program operations and oversight. Supporting this type of expense overseas will create the need for additional efforts in budget supervision and auditing on the part of FAS. However, we are prepared to take this step in order to assure adequate administration of this rapidly expanding program.

EFFECTIVENESS OF THE TEA PROGRAM

Question: Has FAS independently assessed the effectiveness of the TEA program to date through in-house analyses and reviews of data?

Answer: FAS has been collecting information on the results of particular TEA programs and activities from a range of sources, including independent analyses contracted by TEA program participants, in-house reviews of particular activities and country programs, and export data received from participants. We have not carried out an extensive review of the program as a whole. A major focus of policy attention in recent months has been the refinement of program guidelines on evaluation, in order to assure that essential information will be available on a routine basis both to evaluate specific programs and to assess overall program effectiveness when it is time to carry out such a comprehensive review.

Question: Does FAS have plans to tighten its oversight of the TEA program?

Answer: FAS does not plan any fundamental changes in TEA program management, but a large number of administrative, accounting and other changes will be incorporated in the next periodic revision of TEA Guidelines, which will be finalized prior to the fiscal year 1989 allocation cycle. Additional staff, both in commodity program divisions, and in a new cross-commodity program management division, will concentrate a good deal of their time on TEA program oversight.

OFFICE OF PLANNING AND EVALUATION

Question: Would FAS support the establishment of an Office of Planning and Evaluation for its export initiatives, or do you believe that sufficient guidelines and evaluations are currently in place?

Answer: FAS has just established a Marketing Programs Division to coordinate market development program planning, administration, and evaluation. When fully operational, this division will provide cross-commodity coordination and support for the marketing specialists working with particular TEA participants and Market Development Cooperators. We believe that establishing this unit as an integral part of the FAS organization is preferable to the establishment of another outside oversight or planning body, which may lack the intimate knowledge of program operations required to provide workable direction and procedural advice to operational staff within the agency.

PLANS FOR TRADE OFFICES

Question: What are the plans of FAS in fiscal year 1988 and 1989 for the operation of overseas trade offices?

Answer: The focus of efforts by our Agricultural Trade Offices will be along the same lines as in previous years, with particular emphasis on the effective management of the TEA program and other marketing initiatives from the Food Security Act of 1985. The TEA program level will nearly triple in the coming fiscal year, placing a particular burden on all FAS marketing staff to support private sector efforts to plan and carry out sound promotional activities. Field offices will be expected to advise program participants and FAS Washington on appropriate country strategies, and on targets of opportunity. The nearly tenfold increase in total market development funding which has taken place in five years has made the

ATO's coordinating role among various U.S. private sector agricultural export interests even more important that it has been in the past.

Question: Will FAS Staff at existing offices be increased?

Answer: In light of the increase in number and scale of U.S. agricultural export promotion programs, FAS will carefully consider the possibility of selective staff increases. In deciding whether to add overseas personnel, it will be necessary to balance potential improvement in program management against the very considerable cost of maintaining staff outside the United States, particularly in those strong-currency countries where our marketing programs tend to be most active.

FAS OVERSEAS OFFICES

Question: Will new agricultural posts overseas be established?

Answer: There are no plans to establish new posts in the 1989 budget proposal. However, if changing conditions so warrant, we could establish a new post through offsetting reductions at another post.

Question: What criteria are used to determine the location of overseas agricultural posts?

Answer: The principal criteria for establishing a new post are the size of the market and its growth potential for U.S. agricultural products. Another important criteria is the level of program activity already initiated in that country, i.e. EEP, TEA, P.L. 480, Section 416, etc.

Question: Are the activities of FAS Agricultural Attaches and other federal agency representatives overseas well coordinated? How could coordination be improved?

Answer: The activities of FAS overseas representatives are coordinated with other agency representatives through the country team process. Our Counselors or Attaches normally meet with the country team chaired by the Ambassador at least once a week. Coordination can be improved through close personal contact with the other agency representatives.

ATTACHE LANGUAGE PROFICIENCY

Question: Are agricultural attaches proficient in the language of their host country?

Answer: Language proficiency at our language designated posts has improved significantly and with the current programs we have in place, it will be much better in the future.

FAS is placing considerably more emphasis on language training, especially training of the younger officers. Proficiency in a language is a prime factor in considering assignments for our officers. Full time language training is provided when necessary to develop language proficiency. In recent years we have added Korean and Arabic to the list of hard languages where we provide up to 44 weeks of training. Although the language training program has been costly, FAS feels the cost is justified in preparing our officers to better carry out their duties at post.

Under the requirements of the Foreign Service Act of 1980, no career candidate in FAS may be commissioned into the Foreign Service until he or she has demonstrated a proficiency in at least one foreign language.

Also, a new language incentive program was implemented October 1, 1986. The main feature of the program is that it pays incentives (bonuses) for certain languages to officers assigned to overseas posts where the languages are required.

Question: What percentage have met proficiency standards?

Answer: Currently, 67 percent of our officers are fully language qualified, with many officers rating just below the targeted level. The number of qualified officers is up more than 10 percent from 5 years earlier. In order to quality as proficient, an officer must achieve a score of S-3/R-3 in a world language such as French, Spanish, Italian and German, or a S-2/R-2 in the difficult languages such as Russian, Chinese, Japanese and Arabic. The following table shows the number of qualified officers by language grouping at our language designated posts:

Language Proficiency in FAS at Language Designated Posts
(3/24/88)

Language	Officers	Qualified
Spanish	18	14
Portuguese	5	4
French	12	7
German	7	1
Italian	2	1
Japanese	5	5
Russian	3	3
Chinese	3	2
Total	55	37

Note: Although not required, two officers are qualified in Dutch, one in Arabic, one in Malay, one in Serbo-Croatian, and one in Swedish.

ATTACHE REPORTING

Question: Are attaches required to submit reports on their activities?

Answer: Counselors and Attaches are required to report on certain specified activities such as trip reports and trade fairs. Trade Officers are required to file a monthly activities report.

Question: Have reporting requirements been reduced recently?

Answer: There has been no significant reduction in reporting requirements since 1985 when a number of required quarterly and semiannual reports were eliminated. However, greater emphasis was placed on alert reports and monthly status reports for certain major commodities. Also, a number of special reports were added by the Congress in the Food Security Act--including the Section 1132 Report.

Question: Has this affected the quality of FAS published reports?

Answer: We believe the emphasis on alert reports has improved the timeliness of the information being fed into Washington and this should enhance the quality of our published reports.

Question: How is the effectiveness of attache performance determined?

Answer: A number of factors are included in assessing the effectiveness of our overseas staff. The various program areas of FAS, other USDA agencies, and the Ambassador, all provide their assessment of the performance of our Counselors, Attaches and Trade Officers.

Question: Is it measured based on contributions of individual attaches toward enhancement of U.S. agricultural exports?

Answer: Their contributions to enhancing U.S. agricultural exports is one of the important measurements in assessing overall performance. In this regard I would note that our annual awards ceremony provides special recognition to those officers in FAS who provide exceptional performance in export expansion activities.

[illegible] WHEAT ASSISTANCE TO LEBANON

In December, 1987, FAS announced an export enhancement program initiative for Lebanon.

Question: What has transpired on this EEP since December?

Answer: Since the announcement, we have been cooperating closely with the Lebanese Embassy on a number of technical issues to ensure the implementation of the program expeditiously.

Question: Do you expect that a tender for bid will be made and accepted by Lebanon in the near future?

Answer: An Invitation for Bids - the first step in placing the program in on operational footing -- was issued in February and we expect Lebanon to be tendering later this year. Currently, our information indicates that their wheat import needs are probably covered through May.

WHEAT ASSISTANCE TO LEBANON

The Senate adopted an amendment to provide wheat under Section 416 authority to the Government of Lebanon during its floor debate on the Continuing Resolution for fiscal year 1988. This amendment was later dropped during meetings of the conference committee, yet support for U.S. efforts to provide food assistance to Lebanon was incorporated in the Statement of Managers.

Question: Please tell the committee what your views are on the amendment adopted by the Senate in December. Specifically, note any concerns you may have about accountability, delivery, and distribution, contracting agent (government versus private voluntary organization), earmarking waivers of statutory provisions and their effects, as well as any other considerations that FAS and the DCC may have relative to this amendment.

Answer: As you know the Administration opposes country earmarkings within the food aid programs. This general position reflects the fact that food needs can vary quickly as can U.S. commodity availabilities. There is also concern that we avoid disincentives to local production and do not displace commercial sales. To best assure effective food aid, we believe flexibility is important. Our wish to assist needy people in Lebanon coincides with that of the Congress. We are providing Title II grant food aid to help needy people in Lebanon. Currently this assistance is being provided through a private voluntary agency which is, we believe, doing an excellent job of delivering food in this difficult situation. We do not currently have a request for food aid from the Government of Lebanon under consideration.

Question: What other means might the Government of Lebanon realistically expect to use to obtain wheat for its people?

Answer: One means that the United States has made available to ship wheat to Lebanon is an Export Enhancement Program initiative. We announced such an initiative for 150,000 tons in December. We are, of course, always happy to discuss with representatives of the Government of Lebanon other possible programs with which we could assist them.

Question: Has FAS, in conjunction with the DCC, reviewed a proposal for wheat donations to Lebanon under either Section 416 or P.L. 480?

Answer: As noted above, we are supplying several commodities to Lebanon under the P.L. 480 Title II grant program. One of these commodities is bulgur, a wheat product. At present we do not have for review any other active request for wheat under either Section 416 or P.L. 480.

Question: If such a proposal has been reviewed, please detail when it was received, when a decision on the proposal was made and specific reasons for accepting or rejecting such a proposal.

Answer: During December we did receive a letter from the Government of Lebanon expressing their possible interest in obtaining wheat from the United States. Several meetings were held with interested parties to discuss this matter, and we explained the type of information and necessary commitments which accompany a U.S. food aid proposal. As our discussions evolved, interest in a wheat food aid program was overtaken by possible interest in a commercial arrangement. While we did not receive any follow-up information on a possible wheat food aid transaction, we did announce an Export Enhancement Program for Lebanon to facilitate possible commercial transactions.

Question: If each of the various cooperating agencies in the DCC have differing views on whether these authorities might be responsibly used to provide wheat assistance to Lebanon, please consult with each of the agencies to present a response that clearly distinguishes and explains the concerns of all parties.

Answer: I am aware that generally the members of the Food Aid Subcommittee are supportive of providing effective help to the needy people in Lebanon. Approval of the Title II program demonstrates this support.

Question: How many families and individuals are served by the "Save the Children" program in Lebanon?

Answer: An estimated 135,000 families are being reached by Save the Children. Families are estimated at 5 persons per family, so an estimated 675,000 individuals are being helped.

Question: What portion of the population is served?

Answer: A rough estimate of the current population of Lebanon is 3 million; therefore Save the Children is reaching about 23 percent of the people. There are also other food assistance efforts sponsored by other governments or organizations helping in Lebanon.

TARGETED EXPORT ASSISTANCE PROGRAM - WALNUT MARKETING BOARD

Question: Since the TEA program was initiated, what amount of funds has the Walnut Marketing Board received?

Answer: The Walnut Marketing Board has been approved for $22.5 million of support since the initiation of the TEA program in 1986.

Question: At what specific dates and for what purposes were these funds approved?

Answer: The specific dates and amounts of these approvals for the three years are: August 8, 1986, $9 million; July 30, 1987, $7 million and January 4, 1988, $6.5 million. The Walnut Marketing Board used the assistance for media advertising, in-store promotions, and industrial user promotion in 1986 and 1987, and for media advertising and in-store promotion in 1988.

OIG INVESTIGATION OF THE WALNUT TEA PROGRAM

Question: What is your reaction to the Inspector General's investigation of the use of these TEA funds?

Answer: The Office of the Inspector General instructed FAS officials to ensure that a legal opinion was obtained from the Office of the General Counsel regarding The Walnut Marketing Board's eligibility to participate in the TEA program in fiscal year 1986.

FAS has received an opinion from the Agricultural Marketing Service, USDA, attesting to the fact that The Walnut Marketing Board's participation in the TEA program in no way violated any provisions of their federal marketing order. We have requested from the Office of the General Counsel legal confirmation of that opinion.

Under California State legislation, a Marketing Commission was subsequently created for the sole purpose of implementing and administering the TEA program for walnuts. Established in August 1987, the Commission has the authority to generate and expend both industry and TEA resources.

The Inspector General's investigation also raised questions about The Walnut Marketing Board's staff and accounting systems. According to the most recent review completed by the Compliance Review Staff, the Commission is now staffed by a Chief Executive Officer, marketing director, marketing manager and a full time, experienced accountant/treasurer. In FAS' opinion, this staff and its collective expertise should be adequate to plan, implement and administer the commodity's TEA Program.

COOPERATOR PROGRAM

Question: What portion of fiscal year 1988 funds has been used to fund the Cooperator Program?

Answer: A total of $37,100,000 is being used to fund the Cooperator Program in fiscal year 1988.

Question: What portion has been used for administrative costs of the Cooperator Program?

Answer: Of the amount $37.1 million for the Cooperator Program $13.1 million is budgeted for cooperator administrative costs.

EFFECT OF DOLLAR DEPRECIATION

Question: What is the amount of administrative funds that has been required due to the decline of the dollar overseas?

Answer: We recently reviewed cooperator marketing plans to analyze this specific issue. Based on this analysis, between $670,000 and $700,000 in additional dollars would be required to cover unanticipated additional administrative cost increases due to the decline in the value of the dollar in fiscal year 1988. It should be noted that substantial Cooperator Program cutbacks took place in earlier fiscal years, either because cooperators failed to forecast the dollar depreciation now routinely calculated in program planning, or because appropriations were not sufficient to cover the losses encountered.

ADDITIONAL COOPERATOR PROGRAMS

Question: What additional Cooperator Programs are under initiation in fiscal year 1988? For what commodities?

Answer: No additional organizations have been formally added to our Cooperator Program. However, we have been approached by an organization that would like to obtain cooperator status in the promotion of embryos and embryo transplants, and we are working with them to determine whether a satisfactory agreement can be worked out. Blueberry producers and Midwest apple producers have been included as participants in the Cooperator Program through two of our regional state cooperator organizations. We have increased base funding by $50,000 to each of the regional state cooperators this year to accommodate new programs of this sort.

INDUSTRY CONTRIBUTIONS TO MARKET DEVELOPMENT ACTIVITIES

FAS requires matched funds from producer/industry representatives through the Cooperator Program.

Question: Please explain how the private share is met during the period of initial market penetration and whether this same share is maintained once a market for a particular U.S. commodity is established?

Answer: It has always been the policy of FAS to view government funds as seed money when market development activities are expanded into either high risk areas or new markets. In general, the contribution of an industry group to market development is expected to increase as projects for a given commodity and in a given region mature.

IN-KIND CONTRIBUTIONS FOR THE COOPERATOR PROGRAM

Question: Are in-kind contributions attributable to the share requirement, or is payment made solely in cash contributions?

Answer: In-kind contributions are attributable to market development program shared cost requirements.

CONTRIBUTIONS TO THE TEA PROGRAM

Question: How does the response to each of these questions compare to requirements and contributions made under TEA?

Answer: Contribution types, either cash or in-kind, exist and operate in the TEA program in an analogous fashion to contributions in the Cooperator Program. During the start-up phase of the TEA program, contributions as a percent of funding have tended to be lower than those in the Cooperator Program, particularly in the case of commodities designated for priority treatment under the law.

AGRICULTURAL INFORMATION AND MARKETING SYSTEM

Question: What is the purpose of the Agricultural Information and Marketing Services (AIMS) program?

Answer: The purpose of the AIMS program is to encourage commercial transactions between U.S. food and agricultural suppliers and foreign buyers. Main functions include: a trade inquiry system for foreign buyers to request U.S. products, called Trade Leads, and a product announcement system for U.S. suppliers to publicize their products overseas, called Buyer Alert.

Question: Who are its users?

Answer: The majority of AIMS users are small to medium-sized food firms, brokers and agricultural producers. Grocery items constitute 60 percent of all leads, while bulk and unprocessed products account for 40 percent of all inquiries.

Question: How much does it cost each year?

Answer: The AIMS program costs about $215,000 per year. This includes salaries, advertising, printing and travel. Receipts total close to $45,000, so the net cost of the program is about $170,000.

Question: Is it effective in providing trade leads?

Answer: Trade Leads are provided by our attache service to AIMS, which then distributes them to U.S agricultural product suppliers. In a typical year our overseas posts transmit, and we disseminate, over 4,000 Trade Leads for products ranging from canned fruits and vegetables to bulk grain.

Trade Leads are made available via Daily Electronic Dissemination, Daily Direct Mail, and weekly summaries mailed to subscribers. Additionally, they will soon be published daily in the Journal of Commerce. The combined total subscribers to all of these dissemination services will be about 27,000.

Question: Has an evaluation of the system been conducted?

Answer: An independent group of outside observers evaluated The Agricultural Information and Marketing Services (AIMS) program in September 1985, after an 18 month pilot project period. The three member team of users evaluated the effectiveness of the program in meeting the needs of the agricultural community. It was found that AIMS achieved its initial objectives, and had made significant progress in establishing a framework for future improvements to marketing services. Since that time AIMS services have been reviewed on a continuing basis in-house. As a consequence, AIMS programs are in the process of being continuously adjusted to meet today's demands.

Question: Do FAS personnel operate and maintain the system, or is this service contracted out?

Answer: FAS personnel currently operate and maintain the entire system.

Question: What are the plans for the future of the system?

Answer: We plan on further automating all operations to decrease the lag time between receipt of Trade Leads and their dissemination. We are putting additional resources into improved U.S. supplier and foreign importer lists. We also plan some modest improvements in the promotion program for AIMS, which should expand use. We are simplifying the promotional packet and applications for the various AIMS services. We distributed 10,000 packets last year and plan on increasing that by one half this year.

EXPORT OF WHEAT TO THE SOVIET UNION

Recently, USDA announced that about 650,000 tons of U.S. wheat has been sold to the Soviet Union for delivery during 1987 and 1988.

Question: What are your anticipated projections for export sales to the Soviet Union through the end of this fiscal year?

Answer: So far during fiscal year 1988, the USSR has purchased 7 million tons of U.S. wheat. During the recent U.S.-USSR semi-annual consultations, the USSR was offered the opportunity to purchase another 1 million tons of wheat under the Export Enhancement Program. The USSR is expected to purchase this wheat for shipment over the next few months. USSR wheat imports during the July-September period are normally relatively small as this coincides with their own harvest.

EXPORT OF GRAINS TO INDIA

Recent press reports indicate that India will require higher than anticipated imports of wheat and rice in the coming year.

Question: What do you expect the U.S. exports to India will be and through what programs?

Answer: Adverse weather resulted in sharp reductions in India's wheat and rice crop last year. However, so far India has been able to draw on large food grain stocks, minimizing their need for imports. Indian Government officials have stated that future food grain imports will depend on the size of this spring's wheat crop and on prospects for the summer and fall wheat and rice crops. India is currently projected to import around 200,000 tons of rice during calendar 1988 most likely from Burma and Thailand. Wheat imports for the July/June 1987/88 are projected at 500,000 tons of which the United States will supply a minimum of 100,000 tons under Title II of the P.L. 480 program. The outlook for any additional U.S. exports to India will depend on the level of total Indian wheat and rice import demand in the month's ahead.

When India last imported quantities of food grains in 1983/84, they purchased these commodities commercially. It is expected that they would again be a commercial buyer. It is possible that India might be considered for an Export Enhancement Program for U.S. wheat to assist them in their import program. However, this would have to be given careful consideration so as not to adversely affect non-subsidizing suppliers of grain to India.

FOOD DISTRIBUTIONS TO AFRICAN NATIONS

The food crises encountered by the country of Ethiopia in recent years have resulted in an outpouring of food assistance by the United States Government and private resources.

Question: Please compare for the committee the donations of food aid to Ethiopia through the government and private sector organizations.

Answer: Governments and private sector organizations have pledged a total of 889,000 metric tons of food assistance for Ethiopia in fiscal year 1988. Of this total, governments are contributing 842,000 metric tons, or 95 percent and private sector organizations are contributing the remainder, 47,000 metric tons. The largest government pledges have been made by the Soviet Union with 250,000 metric tons or 28 percent of the total, and the United States with 249,000 metric tons, also 28 percent of the total. The European Economic Community has contributed 116,000 metric tons which is about 13 percent. The largest pledges from private sector organizations come from the Canadian Food Grains Bank with 15,000 metric tons and the Redd Barna and Menchen Fur Menchen provided 10,000 metric tons.

It should be noted that government food assistance is typically consigned to and distributed by private voluntary organizations.

Question: What is the current trend in the food aid needs of Ethiopia and the U.S. Government contribution?

Answer: Food aid needs for Ethiopia have been recently estimated at 1.3 million metric tons. Based on current estimates of food aid from all sources Ethiopia has a total of 1,427,000 metric tons of food aid at its disposal. If the food can be delivered in a timely manner to where it is needed, the situation should be stabilized.

The U.S. Government's contribution to Ethiopian relief efforts, to date, has been 249,000 metric tons of emergency aid and 17,000 metric tons of regular program food aid for a total of 266,000 metric tons. This represents close to 19 percent of the total food aid available to Ethiopia at the moment.

Question: Noting the obstacles in transporting food aid presented by rebel forces in Ethiopia, how is FAS working to assure that food is received by the needy.

Answer: To help facilitate transportation within Ethiopia for Section 416 commodities, the Commodity Credit Corporation has agreed to defray internal land transport costs involved in moving food from discharge ports to distribution sites. In addition, it has agreed to bear a portion of the air freight costs to help move commodities that cannot be transported overland due to a lack of passable roads. Similar support is also provided to donated Title II commodities.

Question: Have there been recent interruptions in the distribution of U.S. food relief?

Answer: The intensification of the civil war in the provinces of Tigray and Eritrea has led to interruptions in the distribution of food assistance, including that from the United States. The heightened conflict has made the land transport of food aid dangerous. Commodity backups at discharge ports have also contributed to a slowdown in the distribution of U.S. food relief.

AFRICAN ECONOMIC DEVELOPMENT

Recently, an independent review panel appointed by the United Nations stated that African countries would require $2 billion in assistance to achieve further economic development.

Question: How do you envision the role of FAS in providing food assistance for development purposes?

Answer: FAS, acting on behalf of USDA, is primarily responsible for the administration and operational implementation of the Title I/III program of Public Law 480. It is also a participant in the Title II interagency committee. One of the purposes of Public Law 480 is to support economic development. In fact, a major initiative of this Administration is laying the basis to eliminate hunger in Africa by the year 2000. Food aid is one of the tools to achieve this goal and we in FAS are fully supportive of this use of our food aid. In our capacity as chairman of the Food Aid Subcommittee, we seek to allocate food aid resources efficiently and effectively. We seek to assure that recipient countries fully benefit from the long-term credit available to them under Title I.

Question: What level of commodities do you intend to program to African nations in 1988 and in 1989 based on current information?

Answer: We can provide that information for the record.

(The information follows)

The following table shows the estimated allocations for African countries in 1988 and 1989. It should be noted that the 1988 levels include emergency approvals to date; however, the levels for 1989 are estimates for non-emergency programs only. Any emergency needs in Africa in 1989 will be met from the general reserve and will increase these estimates.

	1988	1989
	-- millions dollars	--
Title I	322.9	311.0
Title II	134.2	75.6
Section 416(b)	28.9	1/

1/ Commodity availabilities for Section 416 (b) programing during FY 1989 have not yet been determined.

MULTILATERAL TRADE NEGOTIATIONS

Question: Would it be realistic to expect that the European Community will cooperate in reaching agreement with the United States in reducing its agricultural support programs?

Answer: Yes. The United States and the European Community agree that world agricultural production and trade policies need reform. In fact, both the European Community and the United States endorsed the Organization of Economic Cooperation and Development--OECD--Ministerial Statement that specifically states that "the long term objective is to allow market signals to influence by way of a progressive and concerted reduction of agricultural support, as well as by all other appropriate means, the orientation of agricultural production; this will bring about a better allocation of resources which will benefit consumers and the economy in general."

However, United States and European Community views differ greatly on how to accomplish the objectives set out in the Ministerial. The United States has proposed that all trade distortive measures and barriers, in all commodities, be eliminated within 10 years. The European Community has thus far taken a less ambitious approach. The job of our negotiators is to resolve these differences in views.

Question: Would the United States be willing to negotiate with the EC on a short-term basis to approve measures for grains, dairy, and sugar?

Answer: The United States has suggested that the long-term elimination of trade distorting measures can begin as soon as all governments, including the EC, are willing make the necessary commitments. That can be 1989, if all agree. In addition, the U.S. is willing to front-load the process to insure that the most serious problems are dealt with expeditiously.

However, the United States is not interested in a solution that would result in only short term solutions. Fundamental, long-term reform is imperative. We would not, and could not, agree to any short-term agreements without concrete long-term commitments from all countries. Because of a unique confluence of circumstances, the world has a real, but limited chance to achieve substantive agricultural reform. A quick-fix, without long-term commitments, would only permit this chance to evaporate.

Question: What concessions would the U.S. be willing to accept in order to reach an agreement?

Answer: As stated in the U.S. proposal, all U.S. programs and policies, on all commodities, that distort trade in agriculture are on the table. The U.S. position is dependent on the full cooperation of all countries to agree to phase-out their respective trade distortive programs.

SECTION 416

Question: Were minimum tonnage levels for commodities to be made available for donation met in fiscal year 1987? In fiscal year 1988? What were they?

Answer: Section 1109 of the Food Security Act of 1985 mandated that the Secretary of Agriculture make available on an annual basis 500,000 metric tons of grains and oilseeds or an amount equal to ten percent of CCC's uncommitted stocks as of the end of the fiscal year, whichever is less, and ten percent of CCC's uncommitted stocks of dairy products, but not less than 150,000 metric tons, under Section 416(b).

In fiscal year 1987, the Secretary determined that 1,975,000 metric tons of grains and oilseeds and 150,000 tons of dairy products were available under Section 416(b). In fiscal year 1988, the Secretary has determined that 2.6 million tons of grains and oilseeds are available for the program from CCC inventories.

Due to the extremely limited supplies of dairy products in CCC inventory, dairy products were not available for programming under section 416 for fiscal year 1988. Any dairy inventory available is being used in domestic feeding programs and P.L. 480, Title II donations as well as for the Congressionally-mandated direct export sales by the Commodity Credit Corporation.

Question: Do you expect that the minimum tonnage requirements will be met in fiscal year 1989? If not, why?

Answer: We do not expect surplus dairy commodities to be available for Section 416(b) programming during fiscal years 1989 and 1990 due to much reduced purchases of surplus products by CCC. It is too early to determine the level of grains and oilseeds which can be legally made available, but we do expect corn and sorghum stocks to remain sizable.

WORLD FOOD PROGRAM

We have reports that the Administration plans to reduce substantially its pledge to the World Food Program for U.S. food contributions over the next two years, compared with the previous biennial pledge. One reason for the reported cutback is that Section 416 CCC surplus commodities will not be available for that new U.S. pledge as they were before, because of dwindling surpluses. However, the law does not require that any part of the U.S. pledge be in the form of Section 416 surpluses.

Question: By what amounts are you intending to reduce the U.S. pledge to WFP when AID is not even meeting P.L. 480 Title II sub minimum requirements? (contributions to the WFP, by law, are included in the subminimum.)

Answer: The Food Aid Subcommittee members are currently considering the question of the next U.S. pledge to the World Food Program (WFP), which will provide commodities during calendar years 1989 and 1990. No decision has yet been made on this matter. You are correct that the reduction in CCC stocks will affect any possible Section 416 component of this pledge. During the last two biennia we have been able to augment our Title II pledge with Section 416 commodities. We have also been careful to explain to the World Food Program that Section 416 resources are of a short-term nature and should not be viewed as regular or long-term U.S. food aid. You are correct that there is no law specifying use of Section 416 for this pledge; there is in fact no law specifying any pledge level to WFP. Any commodities supplied to regular WFP feeding programs can, of course, be counted a part of the Title II subminimum. The interest of Congress in this program is appreciated and this concern will be kept in mind as we review this matter.

U.S. trade sources have told us that they see possible large markets in China for U.S. processed products such as flour, vegetable oil, and dairy, which can be distributed there through the World Food Program. Competitors such as Canada are pledging food aid to China through the WFP with a stipulation that the aid be in the form of flour, thereby helping their market prospects. The WFP has been prepared to distribute U.S. P.L. 480 in China.

Question: Is the USDA prepared to approve P.L. 480 for China, through the WFP or otherwise, if there is a market development prospect? If not, why not?

Answer: At present the World Food Program (WFP) is fully using our pledged commodities. While U.S. commodities are not being used by WFP in China, WFP is providing assistance to that country. Naturally, not all donors's commodities are shipped to all recipient countries. At one time WFP had queried the United States about the possibility of supplying dairy products to its projects in China. However, the dairy supply situation in the United States had considerably tightened at that time so no additional dairy products were available. Therefore, the WFP used products from other donors.

Any request for food aid is reviewed by USDA in terms of the many legal requirements for this food aid, as well as considering supply/distribution factors and trade implications. Such a review would also be appropriate for any request from WFP.

P.L. 480 - TITLES I AND III

Question: For what reasons has the program level for Titles I and III been reduced by $40 million in the fiscal year 1989 budget request?

Answer: The Administration's fiscal year 1989 request for P.L. 480 is designed to comply with the Congressional/Executive Branch overall budget compromise for fiscal years 1988 and 1989. We believe the requested level will meet anticipated food aid program needs.

Question: Will there be carryover balances not obligated in fiscal year 1988 that will be available under Titles I and III in fiscal year 1989? How will such funds affect the appropriation required to fund the programs?

Answer: The amount of carryover funds in a given fiscal year cannot normally be determined until the year has ended, too late for these funds to be included in the following year's budget request. Therefore, in fiscal year 1988, any carryover funds would be available to reduce the fiscal year 1990 P.L. 480 budget request, not fiscal year 1989. The fiscal year 1989 budget request was reduced by $51.8 million in carryover funds from fiscal year 1987.

P.L. 480 AND SECTION 416 - TRANSPORTATION

The GAO issued a report in 1985 recommending that the Secretary of Agriculture require publicly open transportation offers, including nonnegotiable rates and awards for shipment of commodities under P.L. 480.

Apparently, USDA is working on regulations to institute a system of open, competitive bidding for transportation of cargo to selected recipient countries.

Question: What is the status of the regulations?

Answer: The proposed regulations covering P.L. 480, Title I commodities are now being prepared for publication in the Federal Register during the first half of April 1988. Comments will be received from interested persons within 30 days thereafter.

Question: To what selected countries will the regulations apply?

Answer: The regulations will apply to all P.L. 480 Title I countries. In some market situations, when it is determined that little or no competition exists among U.S. flag carriers, freight offers will not be opened in public, but rather negotiated down to the maximum extent possible.

Question: When will the final regulations be promulgated?

Answer: We expect that the final regulations will be promulgated by October 1, 1988.

P.L. 480 - GREAT LAKES SET ASIDE

There is continued concern that the provisions of the Great Lakes set aside established under the 1985 Food Security Act are not being met or that distributions of shipments are unevenly distributed among the port locations during the limited shipping season.

Question: In each of the fiscal years 1986, 1987, and according to your estimates for 1988, what is the volume of cargo shipped from each of the great lakes ports under P.L. 480? (Please prepare a chart specifying the levels,) include the total amount of shipments and the percentage that has been shipped through the Great Lakes ports compared to all U.S. ports.

Answer: The information we have available is on a calendar year basis and will be provided for the record. The estimate for calendar year 1988 are not available at this time.

(The information follows)

Title II P.L. 480
Port Allocations
1986 and 1987

Calendar Year's

Great Lakes Ports	1986 (metric tons)	1987 (metric tons)
Duluth, MN	30,800	17,600
Superior, WI	61,700	6,000
Green Bay, WI	22,900	30,300
Milwaukee, WI	68,000	174,800
Kenosha, WI	32,000	17,800
Chicago, IL	0	1,200
Burns Harbor, IN	14,900	0
Total	230,300	247,700

Port Range (Metric Tons Purchased)	1986 1/	1987 2/
East	992.02	--
Gulf	661,603.90	700,345.51
Inland	104,347.45	108,955.44
Intermodal	--	197,353.32
West	140,611.97	33,715.95
South	54,192.58	20,397.78
North	6,981.77	4,618.91
Bridge	--	50,293.25
Great Lakes	230,457.92	245,123.26
Total	1,199,187.61	1,360,803.42
Lakes as percentage of total	19.2%	18.0%

1/ April 1, 1986 - March 31, 1987 (packaged Title II commodities only)

2/ April 1, 1987 - March 31, 1988 (packaged Title II commodities only)

(Please note that the totals for the individual Great Lakes ports and the Great Lakes port range are slightly different. This is due to different data sources.)

Question: Recognizing the climatic, lock passage, and other limitations of the Great Lakes region, are port allocations being thoughtfully distributed to assure compliance with the set-aside provisions of law? If not, why not? If so, please state specific planning considerations that allow for distribution of the allocations.

Answer: Last year the Title II, P.L. 480 procurement regulation was amended to give the Commodity Credit Corporation (CCC) the flexibility to comply with the Great Lakes set-aside provision. During the months February through October of each year the CCC gives consideration to shipments through the Great Lakes in its monthly commodity procurements and allocations. When necessary, action is taken within the competitive procurement process to set aside tonnage for shipment through Great Lakes ports in order to comply with the minimum tonnage requirements of the law. The allocations apply on a port range basis as stated in the law. The law states in effect, that at least the same amount of packaged Title II, P.L. 480 commodities shipped through the Great Lakes in calendar year 1984 are to be shipped through the Great Lakes in calendar years 1986, 1987, 1988, and 1989. This amounts to about 245,000 metric tons, or about 24 percent of the packaged Title II commodities allocated during the 9-month period that the Great Lakes is open. Accordingly, CCC attempts to set aside about 24 percent of the tonnage each month for shipment through the Great Lakes. The competitive bid system determines the individual ports to which the tonnage is allocated for export.

EXPORT CREDIT GUARANTEE PROGRAMS

Question: How much in export credit guarantees were (a) allocated, and (b) used for each of the last three fiscal years (fiscal years 1985-87?)

(The information follows)

CCC Guarantee Program: Payment Guarantee Commitments fiscal years 1985-87 for GSM-102 and GSM-103

Country	Total Guarantees Allocated	Guarantees Approved
	-- millions of dollars --	
GSM-102		
1985	4,485.2	2,512.8
1986	4,175.3	2,522.4
1987	3,821.4	2,622.5
GSM-103		
1985 1/	--	--
1986	377.0	12.65
1987	410.9	250.4

1/ The GSM-103 program was authorized by the Food Security Act of 1985 and became operational in fiscal year 1986.

Question: What were the total export credit guarantees outstanding on September 30, 1987?

Answer: The export credit guarantees outstanding under the GSM-102 program were approximately $1.2 billion. Under the GSM-103 program the guarantees outstanding were approximately $161 million, bringing total guarantees outstanding to about $1.4 billion.

Question: For fiscal year 1988, how many dollars in guarantees have been allocated to what countries for the GSM-102 program? For the GSM-103 program?

(The information follows)

Allocations Under the GSM-102 and GSM-103 Programs, By Country Through March 4, 1988

Country	GSM-102 Program	GSM-103 Program
Algeria	608	5
Argentina	2	3
Bangladesh	---	40
Brazil	100	---
Chile	30	3
Colombia	45	---
Ecuador	84	2
Egypt	200	---
El Salvador	22	3
Guatemala	29	1
Haiti	7	---
Honduras	12	---
Hungary	28	---
Iraq	825	90
Jordan	20	25
Korea	560	---
Mexico	750	40
Morocco	30	170
Pakistan	217	---
Panama 1/	---	5
Senegal	11	---
Thailand	---	7
Tunisia	99	25
Turkey	97	15
Yemen Arab Rep.	51	45
Yugoslavia	20	---
Total	3847	479

1/ Program suspended as of 1/20/88

Question: What countries being allocated guarantees for fiscal year 1988 are considered to be high credit risk countries?

Answer: Of all the countries currently allocated guarantees for fiscal year 1988, nine could be considered high risk: Brazil, Chile, Colombia, Ecuador, Egypt, Iraq, Mexico, Morocco, and

Yugoslavia. It should be noted that the agricultural export opportunities in these countries are significant.

Question: How were countries' creditworthiness assessed for the export credit guarantee programs?

Answer: We consider a number of factors such as the country's economic and financial situation, the level of debt service, its balance of trade and balance of payments, and the prospects of external debt rescheduling. We try to evaluate for countries that have implemented economic recovery programs, their recovery efforts and the degree to which they are in compliance with IMF guidelines and other performance criteria.

Question: Was any quantitative analysis performed to identify potential credit risk costs for the export credit guarantees allocated for fiscal year 1988? If yes, what costs were identified, and if no, why not?

Answer: The interagency review process chaired by Treasury looks closely at the question of risk. We did not, however, conduct specific quantitative analysis to determine the potential risk costs for the guarantee programs. A necessary consideration in any decision to approve credit guarantees for high risk countries is whether the country is likely to fail to meet its credit repayment obligations to the U.S. bank for any reason. Our program review takes into account the immediate cost to the CCC of having to pay claims against the guarantees that have been approved. We should note that the CCC does not incur an outlay until a claim payment is made. In most cases, non-payments are triggered by countries rescheduling their foreign debt. When that occurs, the CCC pays claims against the guarantees, but in turn is repaid by the country under the terms of the rescheduling agreement.

Question: How much in credit guarantee fees has been collected from fiscal years 1981 through 1987? How much of these fees have been refunded?

Answer: During fiscal years 1981 through 1987, the Commodity Credit Corporation collected approximately $129.8 million in guarantee fees under CCC credit guarantee programs. Approximately, $1.0 million of these have been refunded.

Question: For each year from fiscal year 1981 to 1987, how much has been paid out in claims for the credit guarantee programs? Being country specific, how much of this amount was (a) repaid; (b) rescheduled; and (c) still outstanding as of September 30, 1987?

Answer: We will supply that information for the record.

(The information follows)

The data below shows the claims paid by CCC and the repayments to CCC for Export Guarantee Programs during fiscal years 1981 to 1987.

Fiscal Year	Claims paid by CCC	Repayments to CCC
	-- million dollar --	
1981	61.2	0.2
1982	393.6	1.3
1983	371.2	3.7
1984	701.1	18.8
1985	184.1	19.5
1986	328.3	77.9
1987	478.1	85.0

The major share of the CCC claims paid tend to be concentrated in several countries for a given year. Of the $1.5 billion in CCC claims paid during the fiscal years 1982-84 period, 64 percent was for Poland and 21 percent for Brazil and Peru. In fiscal year 1987, over 60 percent of the CCC claims paid involved programs with Mexico. When CCC pays claims to a financial institution that financed export sales, CCC takes over the financial obligation of the country that has failed to meet its repayment obligations to the financial institution. CCC normally reschedules the debt payments or may maintain the existing repayment schedule.

Based on CCC data as of December 31, 1987 the total debt outstanding for export credit guarantees including both rescheduled and unrescheduled debt was $2.7 billion.

Rescheduling Debt as of 12/31/87

Country	Amount Paid by CCC	Principal Paid	Principal Outstanding
	-- million dollars --		
Brazil	219.1	32.9	186.2
Chile	137.1	39.1	98.0
Dominican Republic	111.4	0.0	111.4
Egypt	177.5	0.0	177.5
Jamaica	55.2	2.5	52.7
Mexico	346.5	0.3	346.2
Morocco	170.3	21.1	149.2
Panama	3.2	1.6	1.6
Peru	129.3	0.0	129.3
Philippines	40.8	1.8	39.0
Poland	1,176.0	17.9	1,158.1
Romania	34.4	34.4	0.0
Sudan	63.7	2.6	61.1
Total	2,664.5	154.2	2,510.3

Question: How much of the claims rescheduled for the export credit guarantee programs were still outstanding as of September 30, 1987.

Answer: Based on our most current data as of December 31,1987, reschedulings totaled $2.7 billion and $2.5 billion is outstanding as of this date. These figures do not include the interest that accrues on these debts.

Question: With the decline in the dollar, do you anticipate increased export credit guarantee program usage for fiscal years

1988 and 1989? Does FAS anticipate a need for increases in CCC guarantee authority for either of the two years?

Answer: In fiscal year 1987 the total value of GSM-102 and GSM-103 credit guarantees approved was about $2.9 billion. The authorization level was $5.5 billion. As of March 4, 1988 credit guarantees, including short term and intermediate term, totaling about $1.6 billion had been approved for fiscal year 1988. This compares with $941 million for the same period in fiscal year 1987. If approvals continue at this pace for fiscal year 1988 CCC credit guarantee utilization will be substantially higher than previous years but well within the authorized level. At this time we continue to believe that the level of CCC guarantee authority of $3.5 billion proposed for fiscal year 1989 will be adequate for program needs.

Question: What controls are in place to assure that export credit guarantees are used only for U.S. agricultural commodities?

Answer: The CCC Charter Act and our regulations allow only for credit guarantee coverage for U.S. agricultural commodities. If there is the possibility that commodities may not be of U.S. origin, the exporter is asked to certify U.S. origin. If we get any indication that non-U.S. commodities have been exported under the credit guarantee program, the complaint is forwarded to the proper authorities for investigation and possible criminal prosecution.

Question: For purposes of the CCC export credit programs what is the definition of a U.S. agricultural product?

Answer: Any product from U.S. farms, forests or fisheries or products derived therefrom.

Question: What percentage of foreign content, if any, is allowed in an agricultural commodity or product for it to still qualify for a CCC export credit guarantee.

Answer: Our policy is to only approve credit guarantees for U.S. agricultural products in accordance with the CCC Charter Act authority. This has given some U.S. suppliers of processed products difficulty since there may not be U.S. sources for all ingredients.

Question: Are shipping costs also guaranteed? If yes, what limits and controls are placed on shipping cost coverage?

Answer: On a case by case basis CCC may approve credit guarantees to cover both commodities and freight. Once coverage has been approved there is no formal limit placed on amount of shipping cost coverage. As of March 4, freight coverage had been approved on an individual country basis for Iraq and Bangladesh, for wood products to Turkey and for all breeding livestock lines.

QUESTIONS SUBMITTED BY SENATOR SASSER

REDUCED FUNDING FOR FISCAL YEAR 1989

Question: The Administration has requested reduced funding for the Foreign Agricultural Service again this year. Last year we were told that important offices would have to be closed under the reduced budget request of the Administration. Will the decreased funding for foreign market development affect the operation of FAS offices, and limit their effectiveness?

Answer: The proposed reduction in foreign market development will primarily be directed at the Cooperator Program, basically bringing the budget for that program back in line with historical funding levels. However, the effectiveness of our overseas offices could be limited somewhat as we attempt to absorb expected overseas inflation and exchange rate losses which are estimated at $1.1 million in fiscal year 1989.

Question: The Senate has included language in the Trade Bill which will make tobacco eligible for the Export Enhancement Program. Considering the decline in the sale of tobacco products domestically, I feel that it is important to increase our foreign markets. Is the FAS prepared to initiate incentives to increase exports of tobacco?

Answer: We have carefully reviewed and will continue to review the issue of the eligibility of tobacco for export subsidies under the Export Enhancement Program. FAS does support trade servicing activities carried out by the leaf tobacco industry under the Market Development Cooperator Program. Tobacco is also eligible for the GSM-102 Export Credit Guarantee program.

QUESTIONS SUBMITTED BY SENATOR BUMPERS

Question: FAS operates one of four federal agency programs for export enhancement. In light of the substantial success seen in the export market for agriculture, and knowing of the importance of the agricultural trade surplus to our overall balance of trade, how can you justify a significant reduction of funding for your fiscal year 1989 request? Will either volume or price of the trade assisted be affected as compared to fiscal year 1988?

Answer: The need to reduce the federal budget deficit was a major factor in formulating the fiscal year 1989 budget request. Holding the FAS budget request to a level consistent with that of recent years will contribute to the government wide effort to reduce the deficit. We do believe that Congress, in enacting the Food Security Act of 1985, has given us the tools necessary to reverse the downturn in U.S. agricultural exports. We intend to continue to use these tools to the fullest extent with the resources made available. FAS is optimistic that agricultural exports and the agricultural trade surplus will continue to improve in fiscal year 1989.

EFFORTS TO ENHANCE RICE, COTTON, SOYBEAN AND POULTRY EXPORTS

Question: Will you detail for me efforts by FAS to enhance rice, cotton, soybean and poultry exports?

Answer: These commodities are included in all of our major export programs.

In the area of export credits, rice, cotton, soybeans and poultry are eligible for both the P.L. 480 and GSM export credit guarantee programs. Programming under the P.L. 480 program during FY 1987 for these commodities was: Rice, $91 million; Cotton, $21 million; Soybeans, $11 million. Exports under the GSM 102 program of these commodities in FY 1987 were: Rice, $137.6 million; Cotton, $265.4 million; Soybeans, $324.6 million; Poultry, $38.7 million.

We also support worldwide promotional activities for all of these commodities, with aggressive programs both in developed and developing countries. Funding under the Targeted Export Assistance program over the past three years for those commodities has been as follows: Rice, $11.5 million; Cotton, $15.25 million; Soybeans, $17.0 million; Poultry, $17.0 million. Funding under the Cooperator program has been: Rice, $4.7 million; Cotton, $3.9 million; Soybeans, $18.3 million; Poultry, $4.7 million. Because these programs are run jointly with the industry, which contributes its own administrative and financial resources in partial support of the marketing activities undertaken, the size of these programs has been somewhat influenced by the industry's interest in supporting the activities in question. The extent of industry support of each program has been rising from year to year.

EXPORT ENHANCEMENT PROGRAM

Question: Are rice, cotton, soybeans, and poultry aggressively promoted in the EEP program? Can you provide details? In other export enhancement programs? How do the promotions of these commodities compare to the promotions of wheat and feed grains?

Answer: The Export Enhancement Program is targeted to assist with exports of specific commodities and counties which meet the criteria for the program. The program is designed to offset the adverse effects of unfair trade practices and subsidies of other countries. Of the four commodities you mentioned rice and poultry are targeted commodities and are promoted under the program. Cotton and soybeans are not targeted commodities; however, vegetable oils are promoted under the program. Sales under the program as of March 11, 1988, included 124,000 metric tons of rice, over 148,000 metric tons of frozen poultry and over 255,000 metric tons of vegetable oil. Over 60 percent of the vegetable oil was soybean oil.

Under the CCC short-term export credit guarantee program (GSM-102) rice, cotton, soybeans and poultry are all aggressively promoted. Since this is a commercial export program, the level of credit guarantees announced by commodity are determined by the requirements of the importing country. Under this program about 40 percent of the total announced guaranteed credit is for wheat and feed grains.

QUESTIONS SUBMITTED BY SENATOR COCHRAN

Question: Last year, the Subcommittee recognized FAS's increased responsibilities and activities as a result of newly mandated export programs and provided a substantial increase in the FAS appropriation for a total of $92 million. If the committee were to provide your budget request of only $89 million, what programs would be reduced or discontinued? What effect would this have on your staffing level?

Answer: The fiscal year 1989 budget proposes a reduction in the Foreign Market Development Cooperator Program of $3 million below the level appropriated in fiscal year 1988. This reduction will bring the funding for this program in line with historical levels. Additionally, our overseas offices may be impaired in their ability to maintain current services. The budget does not propose the discontinuation of any current program activities. With respect to staffing levels, the budget proposes 820 staff years, the same level as in fiscal year 1988 budget.

Question: The Committee also provided supplemental funding to off-set overseas inflation and exchange rate losses. Does your current request provide adequately for these factors?

Answer: The fiscal year 1989 budget does not contain additional funds specifically for overseas inflation and exchange rate losses. To the extent possible, we will use savings from reduced levels of participation in the Federal Employees Retirement System to offset these increased costs. However, it is unlikely that we will be able to fully absorb inflation and exchange rate losses without some negative affect on our overseas presence.

EXPORT CREDIT GUARANTEE PROGRAM GSM-102

Question: One of the disadvantages of the credit guarantee program from the international buyer's perspective is the risk associated with currency exchange rates. Has the Department developed any program proposals to eliminate or minimize these risks our customers take by borrowing and repaying U.S. dollar obligations over a period of up to 3 years when exchange rates fluctuate significantly?

Answer: We have not developed a proposal as yet, mainly because it is uncertain how an exchange rate risk protection program would work. It would be complicated to implement, and costly given the wide fluctuations in exchange rates in some countries.

Question: Would it be helpful to establish a special government-industry task force to review the operation of the GSM-102 program and recommend possible improvements in this important market development and maintenance tool?

Answer: We believe that excellent communication channels already exist between the government and industry on the operation of these programs. U.S. exporters, commodity and trade groups and associations, bankers, and other industry representatives are continually in touch with us by letter, telephone, cable, personal visits, and seminars and panels. They do not hesitate to express their views on operational questions or the changes needed for the programs to work better. We welcome their input. These programs exist to help them; and their comments and suggestions are essential if they are to continue work properly and effectively.

EXPORT CREDIT GUARANTEE PROGRAM GSM-103

Question: The President's budget provides for $500 million in intermediate credit guarantees. Please provide for the record some examples of the transactions which have been registered under the GSM-103 program.

Answer: Through March 4, 1988, FAS had announced intermediate credit guarantees for fiscal year 1988 totaling $479 million, and credit guarantees totaling $117.7 million were registered. Five countries have registered under the GSM-103 program. The countries include Argentina with $0.3 million for breeder livestock; Iraq with $16.1 million for breeder livestock; Morocco with $0.5 million for breeder livestock, and $2.7 million for feed grains and $79.7 million for wheat. Registrations for Tunisia and Turkey for breeder livestock are $13.7 million and $4.7 million respectively.

Question: The proposed budget would reduce Foreign Market Development funding from $52.5 million in fiscal year 1988 to $49.3 million in fiscal year 1989. Won't this reduction have an adverse impact on the ability of cooperators to maintain the level of market development activity currently being conducted? Given the significant increase in FAS administrative and information-gathering responsibilities, will the budget proposal allow FAS to maintain its current level of support for foreign market development activities?

Answer: While the fiscal year 1989 budget will not support cooperator market development activities at the level appropriated in fiscal year 1988, the funding requested is sufficient to maintain the program at traditional funding levels. It is our intention to continue to support market development, as well as all the other export programs under our responsibility, to the maximum extent possible. However, the internal adjustments that will be necessary in order to maintain current services, both here and abroad, will no doubt affect our ability to do so.

COOPERATOR PROGRAM FUNDING
$30 MILLION REDUCTION IN TEA PROGRAM REQUEST

Question: The budget provides $295 million during fiscal year 1989 for the TEA program. Doesn't the 1985 farm bill call for TEA funding of $325 million in fiscal year 1989? If so, why the proposed reduction?

Answer: The Administration's proposal to cut back the TEA program level from $325 to $295 million is to support the President's budget deficit reduction efforts while continuing to maintain a program that meets the intent of the legislation. The reduction is in no way an indication of a retrenchment from our commitment of expanding U.S. exports. Although the number and scope of projects under the TEA program would obviously have to be reduced somewhat or deferred, the remaining authorized levels are considered adequate to provide the essential promotional assistance for most commodities envisioned by the legislation.

REAUTHORIZATION OF THE TEA PROGRAM

Question: Authority for the TEA program expires in fiscal 1990. Would the Department support reauthorization of the program beyond fiscal 1990?

Answer: It is too early for the Department to consider its position on possible provisions in the 1990 Farm Bill. To a considerable degree, our position will be influenced by the progress of negotiations on agriculture during the Uruguay Round of the multilateral trade talks. Also, more comprehensive evaluations of thee programs will be necessary before consideration of new legislation begins in 1990.

QUESTIONS SUBMITTED BY SENATOR MCCLURE

FAS MARKET DEVELOPMENT BUDGET FOR FISCAL YEAR 1989

In 1989 you have proposed a reduction in Foreign Market Development. This program seems to be one that helps a broad range of agriculture producers and processors.

Question: What projects or proposals will be eliminated if the budget is reduced by the $3.16 million suggested?

Answer: The requested budget level is consistent with the original FAS market development budget proposed for fiscal year 1988. Market development programs would return to the base levels established before additional funding became available in the 1988 Appropriations Act. Although this holding to base level funding would not eliminate any projects, it would affect allocations now being made to offset currency shifts, to expand program support and services for new program participants, and to undertake expansion plans for cooperator projects which we were previously unable to fund.

ADDITIONAL FOREIGN MARKET DEVELOPMENT APPROPRIATIONS

Question: What could be undertaken with another $5 million in this program area?

Answer: If additional funding were available, FAS would most likely restore the level of market development funding provided by the fiscal year 1988 appropriations and make adjustments for inflation and dollar depreciation on current activities estimated at approximately $1 million.

PEAS AND LENTILS

Peas and lentils are high in nutritional value, low in cost relative to other commodities, and there is a two-year supply of peas and lentils available. I am pleased to see that the purchase of peas and lentils has increased significantly under the P.L. 480 program.

Question: Can you provide a breakdown of P.L. 480 shipments, by country, that have been made as well as those that are anticipated in the coming fiscal year?

Answer: Peas and lentils are shipped primarily under the P.L. 480 Title II program. While we have stressed the availability of peas and lentils for P.L. 480 programs, specific commodity requests from the cooperating sponsors depend upon the needs and preference of the importing country. Since the Title II program began in 1954 about 110 million pounds of dry whole peas and 19 million pounds of lentils have been exported under this program.

In fiscal year 1987 over 6 million pounds of dry peas and 6 million pounds of lentils were exported under Title II. All of the lentils were shipped to Lebanon and the dry peas were shipped to Ethiopia, Bolivia, India, Ecuador and Mozambique. We anticipate that requests for these commodities in fiscal year 1988 will be close to the 1987 level. We will provide for the record a copy of the Title II shipments by commodity and by country.

(The information follows.)

REPORT OF TITLE II, P. L. 480 OPERATIONS

SECTION 1, GOVERNMENT TO GOVERNMENT, VOLUNTARY AGENCY, AND WORLD FOOD PROGRAM OPERATIONS

COMMODITY SUMMARY REPORT
AS OF SEPTEMBER 30, 1987
(ALL QUANTITIES AND AMOUNTS IN THOUSANDS)

	RECORDED IN CCC'S ACCOUNTS AS EXPORTED			
	SHIPPED SINCE INCEPTION		FY 1987 THRU SEPTEMBER 30, 1987	
	QUANTITY (POUNDS)	CCC INVOICE VALUE	QUANTITY (POUNDS)	CCC INVOICE VALUE
BARLEY	936,335	36,533		
BEANS DRY EDIBLE	245,213	36,179	35,443	6,976
CORN SOYA MILK	6,038,908	789,279	365,230	41,693
CORN SOY BLEND	378,234	50,936		
BULGUR	11,008,806	923,394	463,331	35,622
BUTTER	77,858	27,155	1,433	72
BUTTER PRODUCTS	46,404	46,304		
BUTTER OIL	14,250	13,141		
CHEESE	104,650	32,023	3,635	182
CORN	7,370,920	400,085	157,463	7,731
CORN CRACKED	2,632	112		
CORNMEAL	3,556,082	259,465	184,770	13,556
COTTON	50,009	18,682		
COTTONSEED OIL COOKING	17,519	4,050		
COTTONSEED OIL REFINED	20,868	4,404		
COTTONSEED OIL SHORTENING	3,049	935		
COTTON PRODUCTS CLOTH	411	509		
GRAIN SORGHUM	5,923,118	297,779	57,266	2,437
S F SORGHUM GRITS	1,094,432	116,828	50,917	4,723
MILK DRIED	4,633,613	960,518	238,910	12,483
OATS ROLLED	769,267	78,906	10,895	1,935
OATS	65,038	1,997		
POTATOES-DEHYD	100	30		
RICE MILLED	3,174,774	415,315	193,670	17,032
RICE SOY BLEND	18,256	3,869		
RYE FLOUR	1,100	94		
PEANUT OIL-REFINED	175,769	126,839		
VEGETABLE OIL	4,453,805	1,274,924	270,407	64,616
WHEAT	31,326,592	1,698,813	814,273	41,238
WHEAT FLOUR	14,468,489	981,501	274,959	23,395
WHEAT SOY BLEND	1,299,494	168,440		
SOY FLOUR	56,403	8,484		
WHEAT ROLLED	320,940	14,882		

REPORT OF TITLE II, P L 480 OPERATIONS

SECTION 8 - GOVERNMENT-TO-GOVERNMENT VOLUNTARY AGENCY AND WORLD FOOD PROGRAM OPERATIONS COUNTRY AND COMMODITY SUMMARY REPORT

FISCAL YEAR 1987 THROUGH SEPTEMBER 30, 1987

(ALL QUANTITIES AND AMOUNTS IN THOUSANDS)

COUNTRY AND COMMODITY	SHIPPED QUANTITY (POUNDS)	CCC INVOICE VALUE	EXPORT VALUE
ANGOLA			
BEANS DRY EDIBLE	2,213	451	440
CORN SOYA MILK	3,995	425	417
S F SORGHUM GRITS	3,999	323	315
MILK DRIED	3,349	167	167
VEGETABLE OIL	2,414	635	643
	15,970	2,001	1,982
BANGLADESH			
WHEAT	216,749	11,017	11,017
	216,749	11,017	11,017
BHUTAN			
BULGUR	3,498	303	297
VEGETABLE OIL	584	156	147
WHEAT SOY MILK	1,264	164	156
	5,346	623	600
BOLIVIA			
CORN SOYA MILK	2,294	289	284
BULGUR	34,248	2,748	2,701
CORNMEAL	485	28	28
MILK DRIED	16,026	801	801
OATS ROLLED	200	26	26
RICE MILLED	2,399	181	181
VEGETABLE OIL	7,340	1,931	1,905
WHEAT	401	23	23
WHEAT FLOUR	53,362	4,429	4,356
PEAS-DRY	2,239	283	278
	118,994	10,739	10,583
BOTSWANA			
CORN SOYA MILK	43,040	4,822	4,752
CORNMEAL	275	22	22
VEGETABLE OIL	1,984	551	540
	45,299	5,395	5,314
BURUNDI			
BULGUR	400	30	28
	400	30	28
KAMPUCHEA			
VEGETABLE OIL	3,527	993	973
	3,527	993	973
CAMEROON REPUBLIC			
VEGETABLE OIL	772	210	191
	772	210	191
CAPE VERDE ISLANDS			
BEANS DRY EDIBLE	4,180	807	791
CORN	22,487	882	882
RICE MILLED	6,624	497	497
WHEAT	10,225	570	570
	43,516	2,756	2,740
CENTRAL AFRICAN EM			
CORNMEAL	2,594	217	212
	2,594	217	212

COUNTRY AND COMMODITY	SHIPPED QUANTITY (POUNDS)	CCC INVOICE VALUE	EXPORT VALUE
CEYLON/SRI LANKA			
MILK DRIED	10,600	530	530
VEGETABLE OIL	558	127	124
WHEAT	56,770	2,935	2,935
WHEAT FLOUR	3,050	258	254
	70,978	3,850	3,843
CHAD			
CORN SOYA MILK	598	68	67
CORNMEAL	2,648	225	220
GRAIN SORGHUM	17,347	735	735
S F SORGHUM GRITS	5,188	526	512
VEGETABLE OIL	346	96	95
	26,127	1,650	1,629
CLUSA-INDIA			
VEGETABLE OIL	23,600	5,609	5,473
	23,600	5,609	5,473
COMORO ISLANDS			
CORNMEAL	7,590	597	631
RICE MILLED	252	19	19
VEGETABLE OIL	88	24	23
	7,930	640	673
CONGO/BRAZZAVILLE			
RICE MILLED	331	26	26
VEGETABLE OIL	66	18	15
	397	44	41
COSTA RICA			
BEANS DRY EDIBLE	46	13	13
VEGETABLE OIL	110	30	25
WHEAT FLOUR	900	72	70
	1,056	115	108
BENIN			
CORNMEAL	4,992	320	304
MILK DRIED	2,314	116	116
VEGETABLE OIL	1,821	482	474
	9,127	918	894
DOMINICAN REPUBLIC			
CORN SOYA MILK	399	47	47
BULGUR	4,017	328	322
CORNMEAL	3,769	266	260
MILK DRIED	2,893	145	145
VEGETABLE OIL	528	143	130
WHEAT FLOUR	636	54	54
	12,242	983	958
ECUADOR			
MILK DRIED	1,880	94	94
OATS ROLLED	525	80	77
RICE MILLED	4,094	312	312
VEGETABLE OIL	18,912	3,191	3,128
PEAS-DRY	292	36	47
	25,703	3,713	3,658
EGYPT			
CORN SOYA MILK	1,994	275	269
BULGUR	2,886	212	209
MILK DRIED	2,463	123	123
VEGETABLE OIL	6,202	1,695	1,590
WHEAT FLOUR	6,304	527	519
	19,829	2,832	2,710

COUNTRY AND COMMODITY	SHIPPED QUANTITY (POUNDS)	CCC INVOICE VALUE	EXPORT VALUE
EL SALVADOR			
BEANS DRY EDIBLE	2,202	485	471
CORN	40,056	2,500	2,500
CORNMEAL	8,290	554	546
MILK DRIED	9,090	454	454
RICE MILLED	24,648	2,135	2,135
VEGETABLE OIL	6,941	1,890	1,854
	91,227	8,018	7,960
ETHIOPIA			
BEANS DRY EDIBLE	1,715	321	315
CORN SOYA MILK	899	111	111
BULGUR	81,397	6,478	6,484
S F SORGHUM GRITS	21,833	2,192	2,154
MILK DRIED	2,547	127	127
OATS ROLLED	1,120	323	159
RICE MILLED	298	39	39
VEGETABLE OIL	5,456	1,534	1,504
WHEAT	19,489	1,008	1,008
WHEAT FLOUR	15,391	1,353	1,326
PEAS-DRY	2,525	410	402
	152,670	13,896	13,629
ETHIOPIAN REFUGEE			
CORN SOYA MILK	1,988	250	222
GRAIN SORGHUM	36,677	1,559	1,559
WHEAT	10,982	631	631
	49,647	2,440	2,412
GAMBIA			
CORNMEAL	600	34	33
MILK DRIED	1,951	123	123
RICE MILLED	17,933	2,167	2,167
VEGETABLE OIL	1,089	288	282
	21,573	2,612	2,605
GAZA			
BULGUR	702	51	50
MILK DRIED	217	11	11
RICE MILLED	989	76	76
VEGETABLE OIL	491	128	128
WHEAT FLOUR	3,397	300	295
	5,796	566	560
GHANA			
BULGUR	15,322	1,201	1,179
S F SORGHUM GRITS	6,501	574	564
MILK DRIED	529	26	26
RICE MILLED	2,552	280	280
VEGETABLE OIL	3,993	975	958
WHEAT SOY MILK	3,291	443	410
	32,188	3,499	3,417
GUATEMALA			
BEANS DRY EDIBLE	2,516	490	474
BULGUR	10,099	845	831
CORN	12,157	501	501
CORNMEAL	11,955	788	773
MILK DRIED	15,914	796	796
OATS ROLLED	7,696	1,287	1,267
RICE MILLED	7,263	735	735
VEGETABLE OIL	9,142	2,362	2,246
WHEAT FLOUR	2,311	192	190
	79,053	7,996	7,813
GUINEA-BISSAU			
GRAIN SORGHUM	267	11	11
RICE MILLED	4,851	375	375
VEGETABLE OIL	308	80	80
	5,426	466	466

COUNTRY AND COMMODITY	SHIPPED QUANTITY (POUNDS)	CCC INVOICE VALUE	EXPORT VALUE
GUINEA			
CORN	881	38	38
RICE MILLED	2,094	157	157
	2,975	195	195
GUYANA			
WHEAT FLOUR	100	17	17
	100	17	17
HAITI			
BULGUR	19,783	1,603	1,574
CORNMEAL	17,034	1,420	1,386
MILK DRIED	10,563	528	528
VEGETABLE OIL	3,785	997	975
WHEAT	80,541	4,300	4,300
WHEAT FLOUR	497	41	41
	132,203	8,889	8,804
HONDURAS			
BEANS DRY EDIBLE	1,011	245	237
CORN SOYA MILK	8,186	929	924
BULGUR	1,445	109	108
CORN	15,644	672	672
MILK DRIED	6,478	324	324
RICE MILLED	6,080	685	685
VEGETABLE OIL	2,845	766	708
WHEAT FLOUR	3,078	259	251
	44,767	3,989	3,909
INDIA			
CORN SOYA MILK	232,438	26,524	26,089
BULGUR	209,349	15,522	15,221
RICE MILLED	5,490	412	412
VEGETABLE OIL	44,380	11,479	11,251
PEAS-DRY	993	110	108
	492,650	54,047	53,081
INDONESIA			
BULGUR	25,992	2,093	2,074
MILK DRIED	9,682	484	484
RICE MILLED	5,247	695	695
VEGETABLE OIL	243	72	70
	41,164	3,344	3,323
IVORY COAST			
RICE MILLED	1,850	142	142
	1,850	142	142
JAMAICA			
BUTTER	1,433	72	72
CHEESE	3,635	182	182
CORNMEAL	15,347	1,439	1,412
WHEAT	9,781	528	528
WHEAT FLOUR	786	70	68
	30,982	2,291	2,262
JORDAN E BANK			
RICE MILLED	249	33	33
	249	33	33
JORDAN W BANK			
BULGUR	1,325	104	102
MILK DRIED	878	44	44
RICE MILLED	790	72	72
VEGETABLE OIL	957	256	249
WHEAT FLOUR	8,098	738	726
	12,048	1,214	1,193
KENYA			
CORN SOYA MILK	840	97	95
	840	97	95

COUNTRY AND COMMODITY	SHIPPED QUANTITY (POUNDS)	CCC INVOICE VALUE	EXPORT VALUE
LEBANON			
CORN SOYA MILK	8,980	1,106	1,086
MILK DRIED	6,001	300	300
RICE MILLED	13,440	1,008	1,008
VEGETABLE OIL	5,895	1,566	1,519
LENTILS-DRY	6,014	1,333	1,307
	40,330	5,313	5,220
LESOTHO			
BEANS DRY EDIBLE	1,428	257	252
CORN SOYA MILK	6,389	757	743
BULGUR	6,389	479	471
CORNMEAL	21,767	1,348	1,336
MILK DRIED	7,459	432	432
VEGETABLE OIL	5,493	1,463	1,441
WHEAT FLOUR	7,090	625	615
	56,015	5,361	5,290
LIBERIA			
CORNMEAL	600	37	36
VEGETABLE OIL	88	22	22
	688	59	58
MALAGASAY REPUBLIC			
MILK DRIED	2,985	181	181
RICE MILLED	6,762	532	532
VEGETABLE OIL	1,526	407	402
	11,273	1,120	1,115
MALAWI			
CORN SOYA MILK	2,796	342	328
WHEAT	3,090	149	149
	5,886	491	477
MALI			
CORN SOYA MILK	99	12	12
CORN	33,074	1,779	1,779
CORNMEAL	25,910	2,275	2,231
MILK DRIED	331	17	17
RICE MILLED	768	102	102
VEGETABLE OIL	353	96	94
PEAS-DRY	33	5	5
	60,568	4,286	4,240
MAURITANIA			
S F SORGHUM GRITS	2,470	213	209
MILK DRIED	1,765	104	104
RICE MILLED	110	8	8
VEGETABLE OIL	909	238	237
	5,254	563	558
MAURITIUS			
MILK DRIED	551	28	28
WHEAT FLOUR	3,599	294	288
	4,150	322	316
MEXICO			
BEANS DRY EDIBLE	513	107	90
VEGETABLE OIL	172	52	51
	685	159	141
MOROCCO			
MILK DRIED	11,716	586	586
VEGETABLE OIL	6,151	1,589	1,619
WHEAT FLOUR	39,115	3,308	3,245
	56,982	5,483	5,450
MOZAMBIQUE			
BEANS DRY EDIBLE	18,519	3,569	3,516
CORN	11,022	431	431
RICE MILLED	22,045	1,653	1,653
VEGETABLE OIL	10,420	2,646	2,598
PEAS-DRY	499	80	78
	62,505	8,379	8,276

COUNTRY AND COMMODITY	SHIPPED QUANTITY (POUNDS)	CCC INVOICE VALUE	EXPORT VALUE
NEPAL			
WHEAT SOY MILK	11,420	1,552	1,438
	11,420	1,552	1,438
NIGER			
CORN SOYA MILK	5,199	652	641
S F SORGHUM GRITS	3,535	312	306
VEGETABLE OIL	1,345	370	369
	10,079	1,334	1,316
PAKISTAN			
VEGETABLE OIL	39,457	5,974	5,856
WHEAT	380,953	18,854	18,854
RAISINS-DRIED	4,400	2,244	2,200
	424,810	27,072	26,910
PARAGUAY			
WHEAT FLOUR	1,099	101	99
	1,099	101	99
PERU			
BULGUR	18,076	1,359	1,320
CORNMEAL	2,828	172	170
MILK DRIED	11,198	560	560
RICE MILLED	5,055	483	483
VEGETABLE OIL	6,729	1,808	1,778
WHEAT	3,813	195	195
WHEAT FLOUR	37,275	3,301	3,244
	84,974	7,878	7,750
PHILIPPINES			
CORN SOYA MILK	42,600	4,696	4,611
BULGUR	17,480	1,334	1,311
CORNMEAL		2	
MILK DRIED	50,689	2,777	2,777
OATS ROLLED	1,099	179	176
VEGETABLE OIL	17	5	5
WHEAT FLOUR	15,099	1,204	1,181
	126,984	10,197	10,061
POLAND			
RICE MILLED	6,609	601	601
VEGETABLE OIL	8,005	2,113	2,074
	14,614	2,714	2,675
RWANDA			
CORNMEAL	4,486	274	277
MILK DRIED	4,193	230	230
OATS ROLLED	255	40	38
RICE MILLED	14,595	1,335	1,335
VEGETABLE OIL	2,593	668	667
WHEAT FLOUR	1,502	126	124
	27,624	2,673	2,671
SAO TOME			
CORNMEAL	1,291	95	94
	1,291	95	94
SENEGAL			
CORNMEAL	11,562	801	787
GRAIN SORGHUM	2,425	101	101
S F SORGHUM GRITS	7,089	557	543
MILK DRIED	4,556	228	228
RICE MILLED	132	10	10
VEGETABLE OIL	1,277	341	335
	27,061	2,038	2,004
SEYCHELLES			
MILK DRIED	233	13	13
RICE MILLED	715	54	54
VEGETABLE OIL	124	31	32
	1,072	98	99

COUNTRY AND COMMODITY	SHIPPED QUANTITY (POUNDS)	CCC INVOICE VALUE	EXPORT VALUE
SIERRA LEONE			
BULGUR	4,272	322	316
MILK DRIED	2,998	189	189
RICE MILLED	772	58	58
VEGETABLE OIL	2,044	536	526
	10,086	1,105	1,089
SOMALIA REPUBLIC			
CORN SOYA MILK	1,798	214	210
CORN	18,361	766	766
CORNMEAL	5,467	410	402
MILK DRIED	17,104	855	855
RICE MILLED	2,205	165	165
VEGETABLE OIL	5,284	1,337	1,306
WHEAT FLOUR	16,395	1,381	1,351
	66,614	5,128	5,055
ST. KITTS			
RICE MILLED	22	3	3
	22	3	3
ST. LUCIA			
RICE MILLED	11	1	1
	11	1	1
SUDAN			
BEANS DRY EDIBLE	1,100	232	229
CORNMEAL	700	46	46
S F SORGHUM GRITS	300	26	25
MILK DRIED	1,124	56	56
RICE MILLED	3,649	274	274
VEGETABLE OIL	165	41	40
	7,038	675	670
SWAZILAND			
CORN SOYA MILK	699	77	76
	699	77	76
TANZANIA			
BULGUR	2,068	154	150
MILK DRIED	1,641	82	82
VEGETABLE OIL	2,265	686	603
WHEAT FLOUR	54,986	4,680	4,590
	60,960	5,602	5,425
THAILAND			
VEGETABLE OIL	1,764	484	474
	1,764	484	474
TOGO			
BULGUR	4,602	346	341
CORN	1,432	58	58
CORNMEAL	3,236	272	266
GRAIN SORGHUM	550	31	31
MILK DRIED	2,360	177	177
VEGETABLE OIL	2,283	628	611
	14,463	1,512	1,484
UGANDA			
CORNMEAL	7,587	515	505
VEGETABLE OIL	8,848	2,374	2,344
	16,435	2,889	2,849
BURKINA FASO			
CORNMEAL	23,737	1,401	1,378
MILK DRIED	12,869	686	686
VEGETABLE OIL	8,717	2,428	2,370
WHEAT FLOUR	800	65	64
	46,123	4,580	4,498

COUNTRY AND COMMODITY	SHIPPED QUANTITY (POUNDS)	CCC INVOICE VALUE	EXPORT VALUE
ZAIRE REPUBLIC			
CORN	2,349	103	103
MILK DRIED	1,763	88	88
RICE MILLED	22,747	1,706	1,706
	26,859	1,897	1,897
ZIMBABWE			
WHEAT	21,480	1,029	1,029
	21,480	1,029	1,029
	3,155,572	280,356	276,351

QUESTIONS SUBMITTED BY SENATOR GRASSLEY

MEDIUM-TERM OUTLOOK FOR AGRICULTURAL EXPORTS

Question: Mr. Kay, you mentioned in your testimony the export outlook for this next year is positive. While I am encouraged by this news, I am interested to know what you expect future agricultural exports to be over the next two to four years?

Answer: It is difficult to project agricultural exports beyond next year, since the area planted to annual crops throughout the world changes in response to market conditions and government programs, while yield is changing due to weather and other factors. Certainly the trend-lines for U.S. exports of most agricultural commodities are up, since population growth and rising incomes are producing a gradual increase in total demand. We are confident that our enhanced competitive position, due in great measure to the provisions of the 1985 Farm Bill (lower loan rates, a temporary export subsidy program, increased market development activity), will increased our exports over the medium and long term.

LONG TERM MARKET DEVELOPMENT POLICY

Question: What role will the Foreign Agricultural Service's long term market development policy play in the future of agricultural exports?

Answer: FAS' long-term agricultural market development policy is aimed at expanding market opportunities for the full range of U.S. farm, forest and fisheries products. In the area of bulk commodities, we will seek to increase demand from basic processing industries, focusing on the developing world which will supply most of the growth in total consumption in years to come. To maximize the value to the American economy of our farm exports, promotion of value-added agricultural products will continue to be a high priority, with the focus on those developed markets where we can increase U.S. suppliers' market share, and the newly-industrialized countries (NICs) which offer the greatest medium-term market expansion potential. Promotion of semi-processed goods offers excellent potential in those countries in transition from the highly-protected market regimes, typical of developing countries, to the more open regimes that we hope to find in our major trading partners.

FOREIGN MARKET DEVELOPMENT BUDGET

Question: Why was the budget for foreign market development cut for fiscal year 1989?

Answer: The foreign market development budget requested for fiscal year 1989 is consistent with the level of the original fiscal year 1988 budget as submitted to Congress. Holding to a level consistent with recent years supports the President's deficit reduction efforts.

TEA BUDGET INCREASE

Question: You mention in your testimony the 1989 fiscal year budget proposes an increase of $295 million in the Targeted Export Assistance Program. Do you intend to distribute the additional funds proportionately among existing commodities?

Answer: The Food Security Act of 1985, as amended, calls for a Targeted Export Assistance program level of $325 million in fiscal year 1989, up from $110 million in each fiscal year since 1986. However, the Department is proposing legislation to reduce by $30 million the program level for TEA in fiscal years 1989 and 1990 in support of the President's budget deficit reduction efforts. If the Congress acts favorably on this proposal then the TEA program level for fiscal year 1989 would be $295 million. We intend to distribute TEA funds as we have in the past, that is, through an allocation process open to everyone that is interested and can qualify for participation in the program. We do also expect, as in allocations made for the first three years of TEA assistance, that certain commodity groups already participating in the program will likely receive additional TEA support. Each year's allocation process requires all interested program participants to apply and compete for the program support available. Participation in any single year allocation does not guarantee continued favorable allocations.

Question: What are the possibilities for placing additional emphasis on traditional agricultural products such as soybeans, feed grains, pork and beef?

Answer: Of the products you just cited, soybeans, and red meats will be given priority consideration for assistance in the fiscal year 1989 TEA allocation process, as they meet the criteria for priority consideration as called for in the legislation. Feed grains have received TEA allocations in every fiscal year since the inception of the TEA program, and we expect to receive an application for continued funding of feedgrain market development activities through the TEA program in fiscal year 1989. As with other commodities, it remains to be seen what level of additional private contributions the groups supporting these commodities would be prepared to raise.

TEA ACTIVITIES

Question: Your testimony included several examples of the use of TEA funds. Are these projects being funded by moneys from the 1988 fiscal year.

Answer: Yes, many of these projects are supported with fiscal year 1988 TEA resources, as well as those which were allocated in the previous fiscal year.

Question: Does any of the fiscal year 1988 money remain to be distributed?

Answer: The entire $110 million available for the fiscal year 1988 TEA program has been committed.

Question: How do you plan to distribute any remaining funds?

Answer: All funds have been allocated and the allocations have been publicly announced.

ATTACHE OFFICES

Question: Your testimony mentioned the Agricultural Attaches work on policy and market access issues. The 1985 Food Security Act expanded export programs and increased the burden placed on our overseas offices. Does the current budget allow these offices to adequately meet all of the demands being placed on the Attaches under the new programs?

Answer: There is no question that the export programs mandated by the Food Security Act and expanding trade policy work have had a significant workload impact on our offices overseas. While the fiscal year 1989 budget does not propose reductions for these offices, it does require the absorption of overseas inflation and exchange rate losses from available funds.

OFFICE OF INTERNATIONAL COOPERATION AND DEVELOPMENT

QUESTIONS SUBMITTED BY SENATOR BURDICK

MIDDLE-INCOME COUNTRY TRAINING PROGRAM

Question: The Middle-Income Country Training Program is again proposed for termination in fiscal year 1989. Would the fiscal year 1988 appropriation be sufficient to allow the 180 program participants to complete their training if no additional funds were made available?

Answer: When participants are selected, the entire amount of funding necessary for them to complete their training is obligated. Therefore, no additional funds would be required to complete the training of the approximately 250 participants currently in the program.

Question: Do any of the Middle-Income Country Training Program participant countries offer United States agricultural students and scientists opportunities for studying in their home countries?

Answer: We are unaware of any specific programs funded by MIC participant countries which afford opportunities for Americans similar to those afforded to MIC participant country nationals. However, this is not to say that they do not afford American scientists the opportunity to study in their home countries, only that they do not have the resources to fund programs such as the MIC program. Of the 13 countries participating in MIC this year, nine of them have been involved with programs allowing Americans access to their research institutions or have been involved in technical exchanges with us. Some of this involvement pre-dates the MIC program.

Question: If so, which countries have offered such opportunities, and which have not?

Answer: Of the MIC participant countries, Algeria, Cote d'Ivoire, Colombia, South Korea, Mexico, Taiwan, Turkey, Venezuela, and Yugoslavia have offered such opportunities, either through activities such as a recent visit by the Nebraska Agricultural Leadership Council to Cote d'Ivoire which resulted from the MIC program itself, or in conjunction with their participation in programs sponsored by OICD's divisions of Scientific and Technical Cooperation or International Research. Discussions are under way with Malaysia to set up a program to allow such access to American scientists. Barbados, and Trinidad and Tobago are new MIC participants in fiscal year 1988. As for Iraq, the thirteenth MIC participant for this year, we are not aware of any such activities.

Question: What type of projects have been sponsored?

Answer: The type of projects include long-term research lasting up to several years, technical exchanges involving reciprocal visits for the purpose of exchanging technical information or germ plasm, or one-way visits by American delegations which grow out of the contacts and relationships developed as a result of the MIC program.

SCIENTIFIC AND TECHNICAL EXCHANGE PROGRAMS

Question: The Scientific and Technical Exchange Division directs exchange programs with foreign governments and research institutions. Are the subjects of each exchange program of mutual interest to the participants?

Answer: The underlying principle behind every OICD scientific and technical exchange is mutual benefit and balanced reciprocity. By conducting an in-depth analysis of each exchange activity and its benefits, bilateral Working Group negotiations are designed to ensure that this principle is adhered to. In fact, several bilateral agricultural agreements center around a core of mutually beneficial topics that were agreed to at the time the agreement was first signed. To say that each individual exchange activity is of equal benefit to each country is, however, not the case. Often, there is an overall, rather than one-on-one, balance struck. For example, since the United States is more advanced in dealing with salinity management in agricultural soils, the Soviets seek information and technology from the United States to combat these problems. The United States is interested in preventing soil compaction, a problem the Soviets have had to deal with extensively due to their heavier agricultural machinery. So, U.S. scientists will study this issue in the U.S.S.R. In the end, both sides obtain information to benefit their respective agricultural systems, although each side may benefit in different subject areas.

Question: What is the share of funds that is contributed by the participants of the exchange program?

Answer: STC exchange activities are all governed by a policy of co-financing. Conservative estimates of outside funds received for our scientific and technical cooperation effort is one dollar for every one OICD dollar. The primary method of leveraging funds is through co-financing with U.S. participants' home organizations or universities. For about 90 percent of the participants, OICD splits the travel costs with the participant's home organization on an equal basis. The other organization also continues to pay the participant's salary and non-wage benefits. The other ten percent of participants pay all of their expenses, with OICD organizing the trip and planning the itinerary. Private sector participants and all participants in the U.S.-U.S.S.R. program fall into this category and pay 100 percent of their travel costs.

STAFFING REQUIREMENTS OF THE MIC TRAINING PROGRAM

Question: Despite the reduction proposed for the Middle-Income Country Training Program, OICD's budget proposal would maintain the same level of staff as in fiscal year 1988. How many Washington, D.C. staff work on the Middle-Income Country Training Program?

Answer: On page 26-7 of the explanatory notes, the Project Statement table shows the elimination of the two staff-years associated with the MIC Training Program for fiscal year 1989, which is then reflected on the Available Funds and Staff-Years table on page 26-2. The line item "Salaries and Expenses" shows a reduction from 59 staff-years in FY 1988 to 57 staff-years in FY 1989. These two staff-years represent the Washington, D.C. staff who work on the Middle-Income Country Training Program.

FERS ENROLLMENT

Question: Do you expect that enrollment in the Federal Employee Retirement System will increase in fiscal year 1989? How many employees enrolled in FERS in fiscal year 1988?

Answer: Enrollment in the Federal Employee Retirement System will increase by virtue of the fact that new hires will automatically become FERS enrollees. If a second open season for transfers from the Civil Service Retirement System (CSRS) into FERS were established, it is presumed that some employees might voluntarily enroll in FERS because of the clarification of the technical amendments in December, 1987. However, we have received few inquiries which would indicate that this number would be significant.

So far in fiscal year 1988, we have four new FERS enrollees. The total number of transfers during the open season was 12.

OICD FULL-TIME STAFF

Question: Does OICD plan to maintain 57 full-time staff, including the proposed position for a representative in Rome?

Answer: The budget proposed for fiscal year 1989 includes 57 full-time staff funded out of appropriated accounts, which includes the FODAG representative in Rome. The decrease of four full-time positions funded by appropriations between fiscal year 1988 and fiscal year 1989 represents the elimination of the staff associated with the Middle-Income Country Training program and the Foreign Currency Research program, both proposed for termination in the fiscal year 1989 budget. In addition, OICD plans to have 130 full-time positions funded through reimbursable agreements with the Agency for International Development (AID), and 16 full-time staff funded through USDA development assistance and international research projects with Spain, Saudi Arabia, and other developing countries.

QUESTIONS SUBMITTED BY SENATOR SASSER

OICD'S PROGRAMS AND FOREIGN TRADE PRACTICES

Question: The United States has been negotiating with South Korea on the issue of tobacco trade. While South Korea has repealed laws which made American tobacco products illegal, they are still interfering with free trade through delays and expensive taxes on American products. Much of the action on the part of the United States has been through our trade representative. Can the Office of International Cooperation and Development become involved to ensure that American tobacco products are not discriminated against in the South Korean market?

Answer: The Office of International Cooperation and Development (OICD) has no authority to become directly involved with reducing barriers to American products in any particular country.

Question: What role, in general, can OICD play in eliminating unfair trade practices on the part of other nations?

Answer: OICD can contribute to eliminating unfair trade practices in basically two ways, both of which have their effects indirectly. The first is through the work of our International Organizational Affairs Division with multilateral organizations, in which we represent USDA and advance U.S. interests. For example, work carried out as part of the Organization for Economic Cooperation and Development's (OECD) Trade Mandate study is now being utilized in the Uruguay Round trade negotiations. The second is through programs such as the Middle-Income Country Training Program, in which mid-and senior-level officials from both the public and private sector in AID-graduate countries come to the U.S. for long or short term training in various aspects of agriculture. The preliminary results show that the understanding gained and contacts made can lead to increased U.S. agricultural exports to the participating countries.

QUESTIONS SUBMITTED BY SENATOR BUMPERS

FOREIGN CURRENCY RESEARCH

Question: Mr. Goldberg - in your budget request for OICD for fiscal year 1989, you propose to eliminate the Special Foreign Currency Research Program. I am concerned that OMB and CBO score this funding program differently. Can you explain why? Why does the State Department get a different scoring for its use of foreign currency? What are you doing to pursue this issue?

Answer: Based on the discussions with the appropriate budget analysts at both OMB and CBO, we have not been able to identify any difference in their budget treatment for this or similar special foreign currency programs. Because these programs receive dollar appropriations which are used by the administering agencies to purchase the foreign currencies, both OMB and CBO "score" budget authority and outlays against the programs.

In the past, there were several cases where agencies were appropriated excess foreign currencies directly, rather than the dollars necessary to purchase them. In these cases, no outlays were assigned to the appropriations. However, we have been advised that this type of appropriation has not been used in recent years.

As you know, the President's Budget proposes to phase out the Special Foreign Currency Research Program as well as all other special foreign currency programs. Based on all of these considerations, we see no need to pursue this matter further.

Question: Dr. Wallace - If you are successful in your request to have the OICD budget reduced by $3 million, how will this affect the many projects being conducted overseas that benefit U.S. farmers that we would rather not conduct here for health and other reasons?

Answer: We propose to phase out the program. We will continue to administer the research already underway for as long as funds remain, but no new projects will be undertaken.

Question: Dr. Wallace - What is the current need for research funds made available by the Special Foreign Currency program, considering all requests? Do you leverage these funds to attract greater foreign financial cooperation?

Answer: During the 1980s, annual obligations under this program have averaged just under $5.0 million. However, the real constraint we are facing is the greatly diminished supplies of U.S.-owned foreign currencies.

We are currently leveraging our funds. Currently, Poland, Yugoslavia, and Taiwan match our contribution dollar-for-dollar. However, there are countries that cannot do that, i.e., Pakistan, Egypt, and Costa Rica. We have terminated our program with Pakistan, and have only two projects in Costa Rica and three in Egypt.

EFFECT OF MIDDLE-INCOME COUNTRY TRAINING PROGRAM ELIMINATION

Question: Dr. Wallace - If you are successful in getting the Cochran MIC program eliminated, what will happen to the efforts to solve development problems and to develop trade linkages in the 13 countries targeted for assistance in fiscal year 1988?

Answer: If the Middle-Income Country Training program is eliminated, the International Training Division of OICD will cease its activities in the 13 target countries. As these countries are all AID-graduate countries, we know of no other U.S. program available to offer training programs to these countries.

QUESTIONS SUBMITTED BY SENATOR COCHRAN

IMPACT OF FUNDING REDUCTION ON FOREIGN CURRENCY RESEARCH

Question: In FY 1988, OICD's appropriation was reduced -- from $2.5 million to $1.5 million -- for scientific activities overseas (foreign currency research). What have you done to adjust to this lower funding level? Have you had to curtail any research activities?

Answer: Yes, we had to terminate the Translation Program, which was the only source of funds that the USDA National Agricultural Library had for foreign translations. We have terminated our research program with Pakistan, which has been removed from the excess foreign currency list, and curtailed our programs with Poland and Taiwan.

Question: This year, no foreign currency research funding is requested. Are you aware of any other funds that could be used to continue this program?

Answer: No, not at this time. This is the major source of funds for USDA-supported international research activities conducted overseas with foreign currencies.

VALUE OF OVERSEAS RESEARCH

Question: With all the good research facilities we have in the United States, why do we need overseas research?

Answer: The majority of our crops are not native to the Americas. When it is desirable to expand the genetic base of a particular crop, then one must return to the area of the world where that crop originated. Most of our pests, diseases and weeds have also been imported. When it becomes desirable to obtain biocontrol agents for insect pests or weeds, one must return to the region of the world where they originated. It is impossible to study foreign crop or livestock diseases in their natural habitats in the U.S. -- this can only be done where they originated. Study of these diseases in U.S. laboratories under quarantine is of limited scope and value -- and very expensive. Therefore, many studies cannot be done here at all. In addition, some countries are more advanced in certain areas of agricultural research than we are, such as aquaculture and dryland farming, and we benefit by gaining access to that information.

QUESTIONS SUBMITTED BY SENATOR MCCLURE

AVAILABILITY OF FOREIGN CURRENCIES FOR RESEARCH

I noticed that you have proposed the termination of the Foreign Currency Research Program. Your justification states that foreign currencies in excess have declined and availability has diminished. Your statement does not say this source of funding has gone, only lessoned. Since literature from the Department of Agriculture shows that research costs using this program are ten percent of in-house research, it would seem reasonable to use any remaining funds for this cost effective research.

Question: What remaining excess foreign currencies exist by country?

Answer: The only countries that are considered to be in the excess category are Poland and Burma. However, there are several where repayments are still being made, i.e., Taiwan, Pakistan, and Yugoslavia.

Question: Are there any potential sources of excess foreign currencies?

Answer: While there may not be any countries other than Poland and Burma in which U.S. owned foreign currencies are judged to be in excess, USDA has the authority to use any foreign currencies "owned by or owed to the U.S. government". This allows us to use Currency Use Payment (CUP) funds, which are local currencies received as partial payments -- generally five percent -- for P.L. 480 Title I commodity sales in some countries. During fiscal year 1987, CUPs were included in 16 Title I country agree-ments, and those funds may be available in some cases to fund Foreign Currency Research projects.

QUESTION SUBMITTED BY SENATOR SPECTER

IMPACT OF OICD PROGRAMS ON U.S. JOBS AND EXPORTS

Question: Dr. Wallace, as you may know, when Treasury Secretary James Baker III testified before the Senate Appropriations Committee on March 1, 1988, I expressed my concern about U.S. support for World Bank development programs in countries which engage in unfair trade practices. What distinction would you draw between the technical assistance and market development programs funded under the Office of International Cooperation and Development (OICD) and World Bank development projects? Do you have any evidence of lost U.S. jobs as a result of foreign export programs developed with the assistance of OICD?

Answer: The Office of International Cooperation and Development (OICD) does not engage in technical assistance and market development programs which directly involve commodities in surplus which would compete with commodities grown by U.S. farmers. There is no evidence at present to indicate that U.S. jobs are lost as a result of activities conducted by OICD. The agency is required, under the Food Security Act of 1985, to conduct a regular assessment of USDA international assistance activities to determine if such activities have a negative impact on U.S. agricultural exports. The last two assessments have shown that USDA's international assistance activities do not have a negative impact on U.S. exports. The vast majority of USDA international assistance activities are not commodity oriented. The few that are commodity oriented involve either noncompetitive commodities or are not production or export related. USDA's international assistance activities are designed to raise rural incomes in target countries through improved institutional development. Raising rural incomes in developing countries has been shown to be a key element in increasing the global demand for U.S. agricultural products.

SUBCOMMITTEE RECESS

Senator BURDICK. So this ends today's hearing. Our next hearing will be held this Thursday, March 24, at 10 a.m., in this same room. At that time we will hear from representatives of the Farm Credit Administration. The subcommittee now stands in recess.

[Whereupon, at 11:21 a.m., Tuesday, March 22, the subcommittee was recessed, to reconvene at 10 a.m., Thursday, March 24.]

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